

HANDY MAN BOOK

PLUMBING & HEATING
ENCYCLOPEDIA



EASY METHOD
PLUMBING & HEATING
SUPPLIES
AT WHOLESALE

NOTICE ALL PRICES IN THIS BOOK ARE
RETAIL. FOR WHOLESALE PRICES
SEE SPECIAL NET DISCOUNT SHEET IN FRONT.

HARDIN-LAVIN CO

CHICAGO
50 CENTS

SANITARY PLUMBING

WE manufacture a large portion of the plumbing goods we carry, and we are particularly proud of our individual designed high-grade enamelware of the latest and most practical patterns.

All of our enamelware has the newest, turned-over rims and is equipped with the latest standard sized heavy nickel-plated brass interchangeable trimmings of the adjustable patterns (easy installing features) and adjustable iron pipe connections.

In fact, our products, from a fitting to a complete outfit, are all standard sizes, with standard threads interchangeable with other standard makes, for in all of our manufacture we carry in mind the fact that any handy man can properly do the work himself with a few ordinary tools by following our plain, easy installing plans and instructions.

OUR NEW HARDIN EASY WAY

We cannot emphasize the fact too strongly that there is a great deal of deception in plumbing goods, not only in lasting durability but in appearance, and therefore it is to your interest to buy from a reliable firm, and as we have been in this same business at our original location for over forty years, and have made a practical and scientific study of plumbing and heating supplies exclusively, it is only natural that we can give you bigger and better value for your money and more practical satisfaction than firms who handle these goods as side lines.

HARDIN-LAVIN CO.

EST. 1876

SEE DISCOUNT SHEET ENCLOSED
INDEX IN BACK OF BOOK



THE LATE JOHN HARDIN

John Hardin, our late president, was born on a farm in New York state, in 1857, and moved to Chicago in 1866. He engaged in the plumbing and heating business in the early '70's and founded the John Hardin Company at its present location in 1876, which has dealt in plumbing and heating supplies exclusively since its origin.

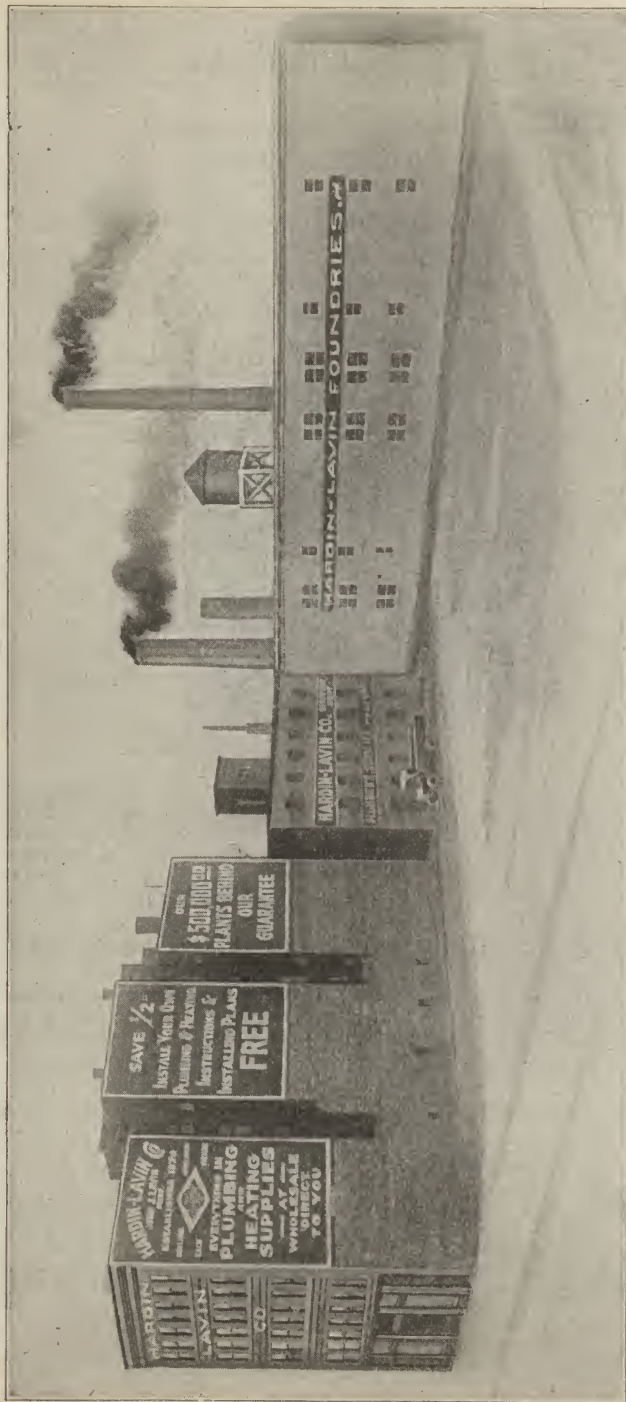
Our company was incorporated in 1904 and experienced a successful business career under Mr. Hardin's management.

Mr. Hardin passed away in 1912, and his son, Eugene Hardin, was elected to succeed him as president. At his death our Mr. John J. Lavin (son-in-law of Mr. Hardin) was elected to our presidency.

Mr. Lavin has been associated with our company for many years and with his co-operation we have experienced a steady increase of business and have enjoyed the increasing confidence of our customers.

CHANGE OF NAME

Heretofore, our selling interests were known as the John Hardin Co. and our buying and manufacturing interests were known as the John J. Lavin Co., and in order to better serve our patrons we have combined both names and companies, calling our entire organization the **HARDIN-LAVIN COMPANY.**



WE WISH TO MEET OUR CUSTOMERS

We invite our out-of-town patrons to call and see us when in Chicago and we will gladly show them through our establishment and give them valuable information on selecting plumbing and heating goods.

OUR BONDED GUARANTEE LABEL

This label appears on each fixture shipped from our plant and is your assurance that you are getting an absolute square deal in buying from us.

Our policy is that we will replace without cost to you any fixture or part that has proven defective or is not as represented, or, in other words, we guarantee satisfaction.

If you question these statements, our financial standing or our 40 years' record of square dealing at our original location, have your local banker look us up in Dun's or Bradstreet's, or write any Chicago bank and you will be convinced that our responsibility stands rigid investigation.

Our guarantee label is backed up by our \$500,000.00 plants.

TERMS

We sell for **cash order only**, which is the best and cheapest plan for both you and ourselves. In selling in this way, it is only natural that we, or any other concern, can sell at the lowest, rock-bottom prices, for we are not obliged to add to our cost a percentage to cover bad debts, bookkeeping, collection fees, drafts, etc.

HOW TO SEND MONEY

In sending in your money with order, you can send Postal Money Order, Express Money Order, your personal check or currency by registered mail.

C. O. D. SHIPMENTS

We do not favor shipping goods C. O. D. Send in your remittance in full with your order, which will save both you and ourselves much needless trouble. However, we will send goods to you C. O. D., draft attached to B/L if you will send $\frac{1}{3}$ of the total amount of your order to show your good will.

HOW TO ORDER

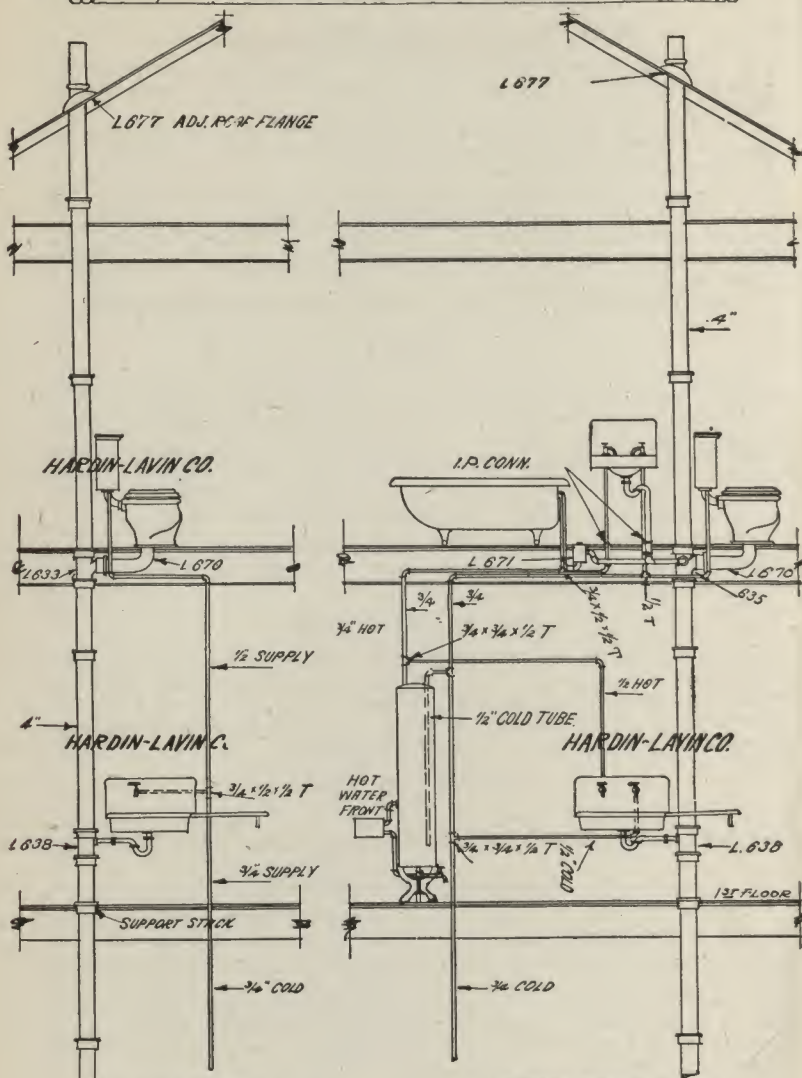
Be sure and give name of article or number, size you want and our net price, so that we can fill your order promptly and properly.

METHOD OF SHIPPING

We will ship all goods to you in the cheapest way, which, as a rule, is by freight, unless otherwise instructed. When you wish goods sent by Parcel Post, send enough money to pay the postage, plus the cost of the goods. Small packages can be shipped much the cheaper this way. If you wish your material shipped by freight, try to order enough goods to make up one hundred pounds, as it does not cost any more to send out one hundred pounds than smaller shipments.

BEFORE REMOVING GOODS AT FREIGHT HOUSE

Always examine each and every article very carefully, as all our goods are handled by experienced men and delivered to the Railroad Company in good condition. **No damaged goods leave our plant.** Do not accept any of our material if your agent refuses to make notation on your freight bill on any damage you might discover.



ELEVATION L-184

Showing 4 in. stack with sink and closet and cold water supply.

To install stack, see p. 10.

To install roof flange, see p. 10.

To install cold water, see p. 12.

To install sink, see L-189, p. 11.

To install closet, see L-190, p. 11.

ELEVATION L-185

Showing 4 in. stack with complete bathroom on 2nd floor, sink and range boiler on 1st floor, with hot and cold water.

ELEVATION L-185

To install stack, see p. 10.

To install roof flange, see p. 10.

To install under floor bathroom waste work, see L-193, p. 13.

To install closet, see L-190, p. 11.

To install lavatory, see L-187, p. 9.

To install bathtub, see L-188, p. 9.

To install kitchen sink, see L-189, p. 11.

To install range boiler with hot water to fixtures, see L-187, p. 16.

To install cold water, see p. 12.

To Our Patrons

This book will answer the ever-increasing demand for high-grade plumbing and heating supplies at the right prices with our easy, practical **Hardin-Lavin** Installing Service.

Our 40 years' experience in this same business at our original location has qualified us to select such plumbing and heating goods, which we know and can recommend to you, and it is only natural that **you will get better satisfaction** in buying from a firm who thoroughly understands and handles these supplies **exclusively**.

When you are deciding to buy an article, from a fitting to a complete plumbing or heating outfit, there are three important facts to be considered.

Quality—Price—Service

Quality applied to plumbing and heating goods has but one meaning—new attractive designs of lasting durability.

Our prices are right on the high-grade goods we carry.

Our practical service meets your requirements in an effective, common-sense way.

First, you want your orders filled promptly and carefully packed by experienced men.

Second, you want prompt and direct shipments.

Third, you need easy instructions on how to install and practical information while you are doing the work.

Throughout this book and in all dealings with us, you will find that upon these three service features we have built up the largest plumbing and heating supply house in existence, selling direct.

Our Bonded Guarantee

We cannot emphasize too strongly our bonded statement that you can return to us, at our expense, any material bought from us that is not as represented, whereupon we will either replace your goods or refund your money, without any trouble whatever to you, or in other words, we **guarantee satisfaction**, which is your protection and assurance that you will get an absolutely square deal.

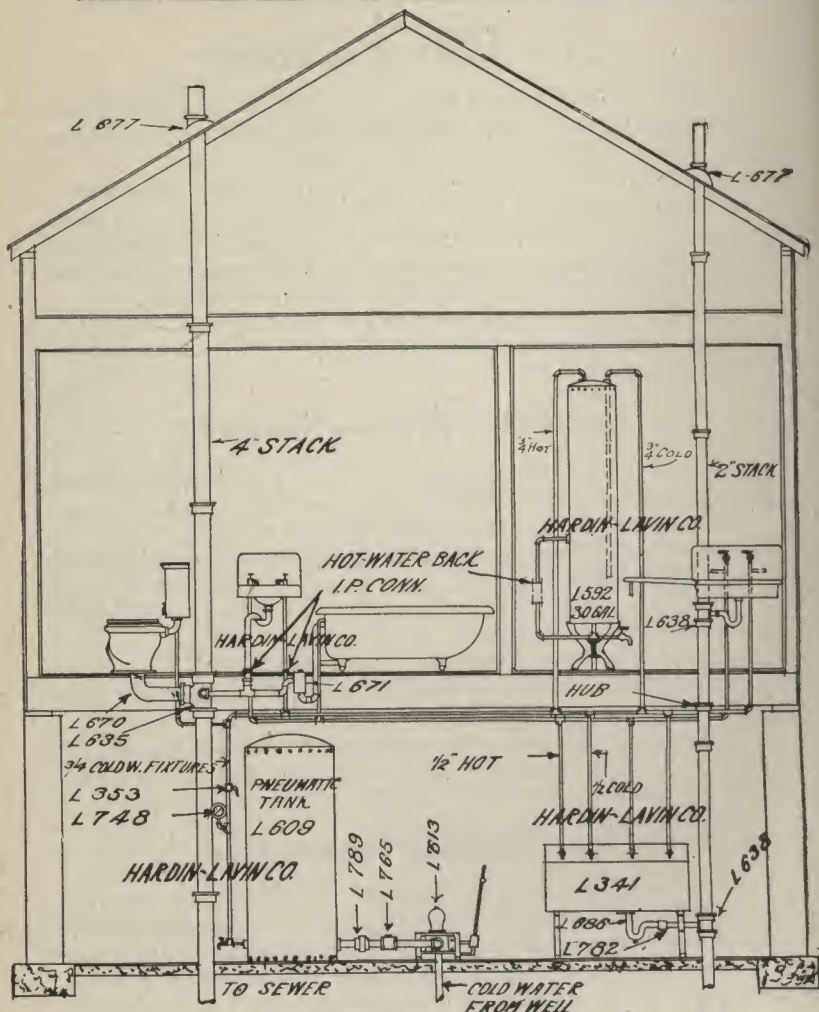
Our guarantee has and will stand the test of years.

Yours very truly,

HARDIN-LAVIN COMPANY,
By

John D. Lavin

President.



ELEVATION L-186

PAGE 6—

Showing 4-inch stack with complete bathroom on first floor and 2-inch stack with sink and range boiler on first floor and two-part laundry tub and pneumatic water pressure system in basement with hot and cold water running to fixtures.

- To install pump, see page 139.
- To install stack, see page 10.
- To install roof flanges, see page 10.
- To install under floor waste work, see plan L-193, page 13.
- To install closet outfit, see elevation L-190, page 11.
- To install lavatory, see elevation L-187, page 9.
- To install kitchen sink, see elevation L-189, page 11.
- To install kitchen range boiler with hot water to fixtures, see elevation L-197, page 16.
- To install laundry tub, see sink elevation L-189, page 11.

INFORMATION, REPAIRING AND INSTALLING DEPARTMENT

Draw a rough pencil sketch and explain to us in your own words just what you want and our Service Department will plan your plumbing or heating plant or show you how to make any known repair pertaining to same, so that any handy man with a few ordinary tools can properly do the work himself.

OUR LAY-OUT MEN

This department is composed of graduated plumbers and steam fitters, who have personally installed and repaired every known plumbing and heating system, and they will show you free of charge how to lay out and install your own plumbing or heating system the **Hardin-Lavin Easy Way**.

SATISFIED CUSTOMERS

We have made a life study of sanitary regulations and heating systems and we are qualified to lay out plumbing and heating in the simplest, easiest and most practical manner known.

Many thousands of our customers have successfully put in their own plumbing and heating goods with this free installing service. In fact, we have never yet experienced one instance where our customer had any trouble whatever in installing his own plumbing and heating or making any repair with the aid of our free service.

If you have any local ordinance calling for any special venting or reventing in plumbing, mail us a copy and we will lay out your installing plans accordingly.

HOW TO FREEZE A WATER PIPE WITH WATER PRESSURE ON, THAT IRON PIPE MAY BE RE-THREADED OR LEAD PIPE REWIPED

First, the pipe must be plugged with a long, soft wooden plug so that water is absolutely shut off. Take a wooden box about 1 foot deep and 2 feet square and cut notches in this box about one-half way down or six inches. Set this box down flat under water supply so that about 2 feet of this supply can be entirely covered up in this box; crack sufficient ice to fill the box. As same is filled, mix heavy salt or ice cream freezing salt with the ice. Cover up with newspapers and leave set for about 35 to 60 minutes and same will freeze supply solid. Plug can be removed and the proper connection made.

HOW TO PREVENT SWEATING OF LEAD OR IRON WATER PIPES

Ordinarily, water pipes sweat because there is some leak in faucets or closet tanks. If they are repaired, in most cases, the sweating will be stopped. Sweating sometimes can be stopped by winding about the pipe several layers of papers and covering this with heavy cloth.

HOW TO STOP THE FLOW OF WATER IN AN IRON PIPE WHERE THERE IS NO SHUT-OFF VALVE

First, screw on any kind of a stop cock or valve. Be sure to leave same open. This will not scatter the flow of water. After you have caught thread well by hand, you can shut off the valve.



SOUTH SIDE TRUST AND SAVINGS BANK

FORMER NAME SOUTH SIDE STATE BANK

OF CHICAGO

CAPITAL AND SURPLUS \$400,000.00

COTTAGE GROVE AVE. & 43RD ST.

CHICAGO, ILLINOIS

OFFICERS
 ISAAC N. POWELL, PRESIDENT
 A. R. FAY, VICE-PRESIDENT
 J. W. CANLIE, VICE-PRESIDENT AND CASHIER
 F. B. WILLIAMS, ASST. CASHIER
 WM. L. MARTIN, ASST. CASHIER

DIRECTORS
 A. R. FAY
 GUY D. RANDLE
 ALVIN H. SANDERSON
 WM. L. O'CONNELL
 ROY O. WEST
 JOHN C. HENSHIRE
 OSCAR F. SCHMIDT
 ISAAC N. POWELL
 J. W. CANLIE

November 10th, 1921.

TO WHOM IT MAY CONCERN:

The HARDIN-LAVIN COMPANY has been a valued customer of our bank for a number of years and is an institution we deem worthy of confidence.

Their many transactions with us have been handled in a highly satisfactory manner, and from our experience, we believe the Company is managed by officers of the highest integrity.

It is our opinion that any one having business relations with the Company will be given a square deal and courteous attention.

Isaac N. Powell
 President.

A FEW OF OUR SATISFIED CUSTOMERS

Hardin-Lavin Co., Chicago, Illinois.
 Gentlemen:

Received the material O. K. and have fixtures set. I am pleased with them and certainly saved money by purchasing from your firm.

Sincerely yours, Fred Zittlo, Kaukauna, Wisconsin

Hardin-Lavin Co., Chicago, Illinois.
 Dear Sirs:

My Automatic Water Supply System purchased from you is indeed very satisfactory, and the expense of operating it amounts to practically nothing.

Yours very truly, E. C. Baker, Miami, Florida.

Hardin-Lavin Co., Chicago, Illinois.
 Gentlemen:

The Closet Outfit is installed and is a dandy. Everything entirely satisfactory. I saved over \$40.00. Many thanks for your prompt service and high grade plumbing sent me.

Yours very truly, J. Ohligschager, Peru, Illinois.

Hardin-Lavin Co., Chicago, Illinois.
 Gentlemen:

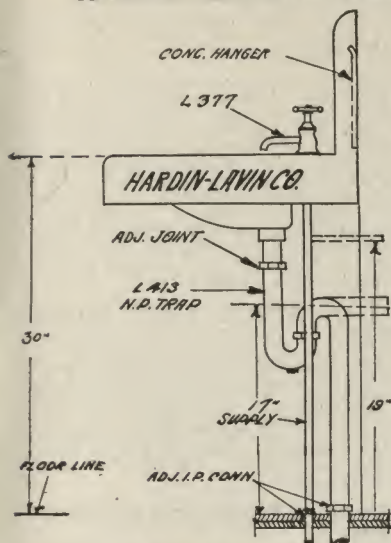
I am well pleased with my Hot Water Heating System. I had no trouble putting it in. It takes very little coal and keeps the house very nice and warm, and I will be glad to recommend your firm.

F. W. Amus, 106 W. 109th Pl., Chicago, Ill.

Hardin-Lavin Co., Chicago, Illinois.
 Dear Sirs:

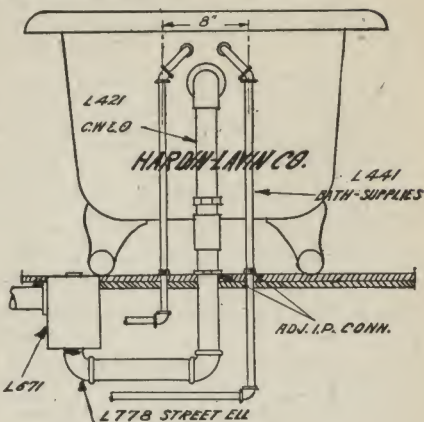
We received the goods O. K. and are more than satisfied with the Bath Room Supplies, and will remember you again.

Yours very truly, W. R. Holliday, Okoboji, Iowa.



ELEVATION L-187

Showing measurements and proper easy way to install and connect up lavatory. First, be sure wall hanger or support is well screwed on to side wall; then hang up fixture on same and for floor connections, bring 1½-inch waste pipe and ½-inch supply pipes about ½ inch above finished floor, all threaded. As a fair average, they should be about 3 to 4 inches out from finished wall. Or, if wall trimmings are wanted, bring 1½-inch waste and ½-inch supplies up in side wall partition to proper height, leaving same extending out about ½ inch outside of finished side wall, all threaded so that trimmings can be easily installed with our adjustable iron pipe connections after side wall and floor are finished. Our P and S traps have adjustments up and down and one way or the other, and our supplies are adjustable up and down. It is always advisable to use 1½-inch waste for lavatory.



L-672-3-4. Traps Can Be Used on Above

ELEVATION L-188

Showing measurements and proper easy way to install and connect up bathtub. First, fasten on legs with our non-come-off attachments and as each leg is numbered and ground to fit individually, be sure to have legs conform with numbers on tub. Next, put on waste and overflow, putting rubber washers on outside of bathtub only and as our L-421 waste and overflow is adjustable, do not cut off tubing in any place, as it can be adjusted to fit bathtub by hand. Carry 1½-inch waste from bottom edge or bottom of drum trap to proper outlet location in floor, bringing supplies and waste about ½ inch above finished floor, all threaded, that tub may be installed after bathroom floor is finished. Waste and supply pipes should be braced between joists to keep same from sagging. Any one of our drum traps, L-671-674, can be substituted according to requirements. Remember to use 1½-inch under floor waste work for bathrooms.

HOW TO TEST FOR SEWER GAS IN BASEMENTS, BUILDINGS, ETC.

Soak any ordinary piece of white paper that has not a glazed finish in a mixture of one ounce of pure lead acetate and one-half pint rain water. When the paper has dried, place it in the building in which you are testing for sewer gas. If sewer gas is present it will turn the paper to a very dark color.



THE PROPER AND EASIEST WAY TO INSTALL CAST IRON SOIL STACKS

When you have decided on the location of stack, cut even, round hole to same size as the soil pipe in first floor. Then drop first length of soil pipe into opening and hub will rest on floor. See elevation L-184, first length of soil pipe below first floor, marked stack support. This makes a very substantial as well as a durable beginning and permanent support. From this length, build right up through the roof and down to the sewer. Be sure to have top of hub of sanitary tee, L-633, about $\frac{1}{2}$ inch below bathroom floor. It is advisable to prop up stack temporarily in basement until joints are calked. It is also advisable to support 4-inch stacks in bathroom, if possible, for you cannot have it too rigid. Try and keep stack as straight up and down as possible. Be sure to use our No. L-677 adjustable roof flange, which makes an absolutely tight joint where stack goes through roof.

HOW TO INSTALL OUR No. L-677 ADJUSTABLE ROOF FLANGE

After stack has been carried through roof from 6 to 8 inches, and should roof be flat and have tar finish, raise up edges of paper and insert roof flange right down on the wood and adjust to fit the roof. Next, replace paper and re-tar, if possible. Or, if roof is shingled, take off a few shingles around stack and place roof flange right down on roof, adjusting same to slant of roof; replace shingles. Next, tap soft lead ring around flange slightly and your job is finished. Be sure to test with a pail of water before you get off the roof.

HOW TO CONNECT UP SOIL PIPE WITHOUT THE USE OF LEAD

After you have slipped together two or more lengths of soil pipe, fill around the soil pipe inside of hub about $\frac{3}{4}$ full of oakum. Calk same down evenly and tightly, using our No. L-655 packing iron. Remember that after same is well packed, it should be about $\frac{3}{4}$ full of oakum. Then fill up balance of hub with our smoothon cement No. L-618. Work this into hub very evenly with a small trowel and in a short while it will set hard and be just as lasting and substantial as any lead joint.

HOW TO POUR AND CALK A LEAD JOINT IN SOIL PIPE

After you have put together two or more lengths of soil pipe, fill around the inside of hub about $\frac{3}{4}$ full of oakum. Tap same down evenly and tightly in the hub, using our No. L-655 packing iron. Remember that after same is well packed it should be $\frac{3}{4}$ full of oakum; then pour in enough of hot lead with our No. L-650 pouring ladle, filling up $\frac{1}{2}$ of the space above oakum with lead in the first pour. Hammer down with our No. L-635 calking iron all around while cooling. Then pour in sufficient hot lead to fill balance of space in hub and recalk as before very evenly and carefully and finished joint is bound to be absolutely tight.

WHY DOUBLE HUB SOIL PIPE IS USED

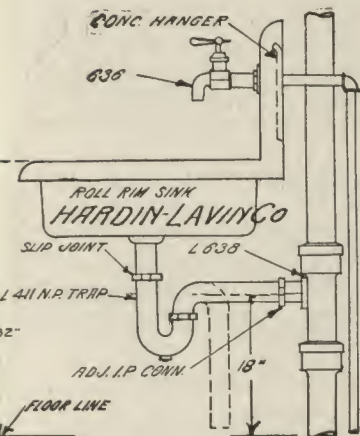
In ordering sufficient soil pipe for a stack, it is always necessary to order about one-fourth of the soil pipe required double hub (see L-622) because all soil pipe is made in 5-foot lengths. You can cut the double hub and use both ends, while if you cut off the single hub (L-621), hubless end is wasted. Unless you are very familiar with soil pipe and fittings, we would ask you to give us a rough sketch of your job and we will draw you up free of charge our easy and simple installing plans; lay out the work for you and give you a list of just enough material to properly complete your job yourself without any assistance from anybody.

AMOUNT OF LEAD REQUIRED FOR SOIL PIPE JOINTS

Each 2-inch joint requires $1\frac{1}{2}$ lbs. Each 4-inch joint requires 3 lbs.

AMOUNT OF OAKUM REQUIRED FOR CALKING JOINTS

Any ordinary bungalow with one stack requires from 6 to 8 lbs. With two stacks, it requires from 10 to 12 lbs.

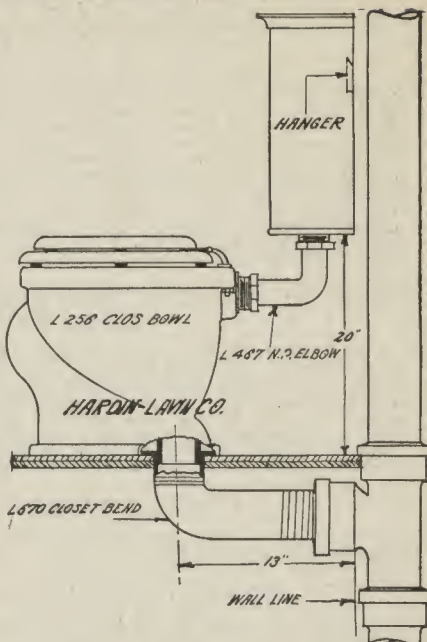


ELEVATION L-189

Showing measurements and proper easy way to install and connect up sink. First, be sure that wall hanger or support is well screwed on to side wall; then hang up sink, and if legs are wanted they can be adjusted to fit any height that sink is set. If floor trap is wanted, bring $1\frac{1}{2}$ -inch waste about $\frac{1}{2}$ inch above finished floor, threaded. If wall connections are wanted, it is advisable to extend trap directly into stack. Supply pipes can be carried up outside close to wall or in partition. Do not screw faucet on too tight. Traps are adjustable up and down and one way or the other. If you connect sink direct to sewer, not into stack, it is advisable to use our L-672 drum trap, running $1\frac{1}{2}$ -inch waste as direct to sewer as possible. This will positively prevent sewer gas from escaping.

ELEVATION L-190

Showing measurements and proper easy way to install iron closet bend and closet outfit. First, top of hub of side opening on sanitary tee L-623 should be fairly close to bottom of under floor. See instructions on page 10. Next, before calking in iron closet



ELEVATION L-290—Con't.

bend L-669 or L-670, slip same into hub opening of tee, and a good average length from center of inlet on bend to finished side wall is from 10 to 15 inches, according to closet outfit; 13 inches is a good average for the ordinary closet outfit. Cut off bend to the right length with cold chisel or hack saw at rings on outlet to proper length. Then calk same in well into tee. Next, screw down adjustable flange on inlet to floor and calk same. Set bowl on bend temporarily, which will give you the right height and location for tank. Tighten both lock nuts on bottom of closet tank. Screw concealed wall hanger well onto side wall and hang up closet tank. Insert a good ring of putty or prepared asbestos ring around outlet of closet and screw same down to flange with two brass bolts which are furnished. Connect up adjustable nickel-plated flush connections. Be careful not to tighten too tight on the closet spud, as same is very delicate and easily loosened. Both flush connections can almost be made tight by hand. Water supply is always on left hand side of tank, facing same. Carry supply straight up from floor to tank.



HOW TO PROPERLY INSTALL COLD WATER SUPPLY PIPES TO FIXTURES IN HOUSE

First, if your supply comes from main in street or elevated tank outside of house, carry $\frac{3}{4}$ -inch or 1-inch galvanized iron water supply pipe below frost line to point near soil stack in basement. (A fair depth is 4 feet.) Then install tee handle check and waste, figure L-354, and carry $\frac{3}{4}$ -inch cold water supply pipe up to first floor, running $\frac{3}{4}$ -inch branch to range boiler and $\frac{1}{2}$ -inch branches to fixtures. See elevation L-185. All cold water supply pipes should be pitched or drained toward check and waste so that when water is turned off at this point with shut-off rod, the entire cold water system will drain out of check and waste. To turn this check and waste on and off, install a $\frac{3}{8}$ -inch pipe shut-off rod, carrying same in box above basement floor. See shut-off clamp L-794.

HOW TO PROPERLY USE STOCKS AND DIES AND CUT GOOD THREADS

See figure L-568. In putting die in stock, face largest opening towards pipe. Be sure you have the right size follower to fit the pipe snug. See L-570. Next, turn to the right, using considerable pressure towards the pipe. When you have caught about one full turn on the pipe, put on plenty of good lard oil as you are threading. From time to time, reverse stocks slightly and clean out chips. Turn on die until $\frac{1}{2}$ -inch thread extends through same. Then clean out shavings and unscrew, and you will have a good, clean thread.

REAM ENDS OF PIPE AFTER THREADING

Be sure to ream out the burr on the end pipe with our No. L-583 reamer, which will give much better service to water or heating system.

HOW TO UNSCREW A HARD THREAD

Heat up fitting fairly hot and pour on a little hot lard oil. This will find its way into the thread and same can be easily unscrewed while hot.

HOW TO CUT A CROOKED THREAD

Very often a slight change in direction of the pipe is required and can be accomplished without using a special fitting by cutting a crooked thread. To do this, use one size larger follower or bushing in stocks than the pipe you are threading, keeping a heavy pressure on one side of the stocks while starting the thread. After same is well started, put on plenty of good lard oil, but do not cut thread too deep. Be sure to clean out shavings from thread before taking off die.

HOW TO CUT A DEEPER THREAD THAN STANDARD

First, thread the pipe regular. Then take off stocks and insert a thin narrow strip of tin between the die and the pipe on one side of the die only, which will force the opposite side of the die to cut a little deeper. Use plenty of good lard oil.

HOW TO CUT OFF A PIPE WHERE IT IS IMPOSSIBLE TO TURN THE CUTTER ENTIRELY AROUND SAME

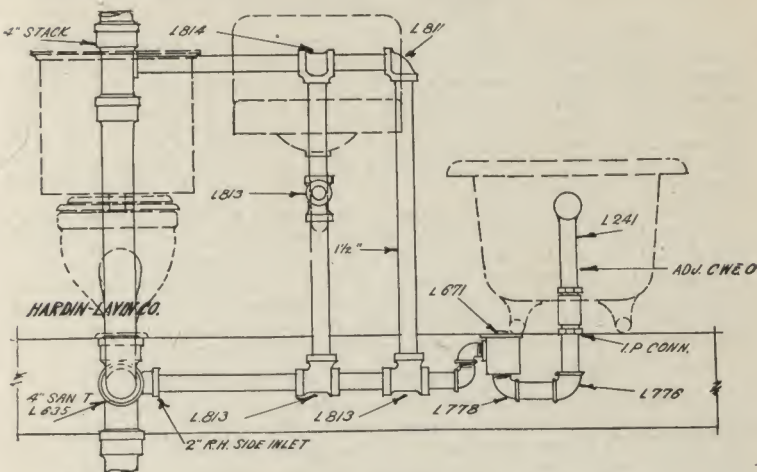
See three-wheel pipe cutter, L-573.

HOW TO CUT OFF LESS THAN ONE INCH OF PIPE

If an ordinary pipe cutter is used, it very often splits the pipe when so near the end. Therefore, use the cutter very carefully, screwing down slightly for every turn around the pipe. Or a good, sure way is to take a hack saw and saw off the required amount.

HOW TO PAINT A GALVANIZED IRON PIPE

It is very difficult to make paint stick properly on galvanized iron pipe. To do this, first clean the pipe with a solution of half water and half ammonia. When this is dried off, any paint will stick permanently.



ELEVATION L-192

Showing new continuous vent and waste system for bathroom outfit as used in large cities with individual vent for lavatory and separate vent for bathtub. All waste piping is 1½-inch black or galvanized pipe with screwed drainage fittings. It is very easy for any handy man to install this system. L-813 sanitary tee has 1¼-inch inlet for lavatory trap. System can be extended to fit position of fixture. Any pattern of our drum traps L-671 to L-674 can be used. Use paint in threads and do not screw up waste pipe too tight.

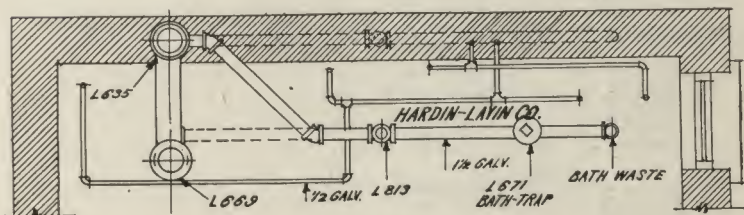
To install bathtub, see elevation L-188.

To install sink, see elevation L-189.

To install lavatory, see elevation L-187.

To install lavatory, see elevation L-187.
To install closet outfit, see elevation L-190.

Drain or pitch all under floor waste work towards stack.



FLOOR PLAN L-193

Showing under floor waste work for bathroom. All under floor waste work should be 1½-inch with 1¼-inch inlet for lavatory and 1½-inch inlet for bathtub, carrying all supplies and waste inlets ½ inch above floor, all threaded. If wall connections are wanted on lavatory, carry 1¼-inch waste and ½-inch supplies up in side wall extending out ½ inch from wall, threaded, so that fixtures can be installed with our adjustable iron pipe connections after wall and floor are finished. Waste can be carried directly into side of iron closet bend or extended directly out from sanitary tee inlet, as per dotted lines, according to requirements in bathroom. Be sure to pitch or drain all under floor waste toward stack. For measurements, see elevations L-187, L-188 and L-190.

A FAIR COMPARISON

In looking over the different magazines you will notice that some firms advertise one horse power gasoline engines as cheap as \$16.00, while other firms ask as high as \$40.00, apparently for the same outfit. Now, we do not say that it would be practical to buy the highest-priced engine, yet it is a known fact that if you pay from \$25.00 to \$30.00 for an engine, you will get one that will outlast, be easier to take care of and cheaper to operate than if you bought the cheapest one.

The same argument applies to plumbing and heating supplies.

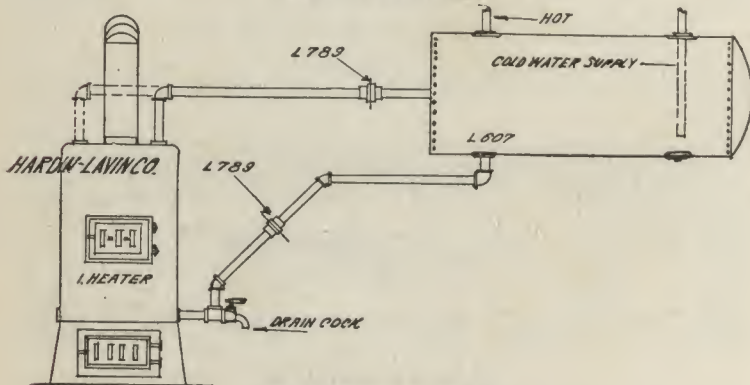
You can buy a closet outfit from some firms as cheap as \$8.00; yet if you install this outfit, you will find the closet bowl is apt to be rough on the inside; the seat is not reinforced and will crack or warp and the tank is not fitted with modern elevated trimmings and same is continually getting out of order; is difficult to get at for repairs and the entire outfit is very noisy in operation.

COMPARE OUR OUTFIT WITH OTHERS

In the first place, our bowls are all perfectly moulded smooth on the outside and on the inside; they syphon well and noiselessly; our tanks are fitted with elevated compound lever ball cocks with exposed thumb screw adjustments and our noiseless refilling device; have newest elevated china tripping lever; our syphon valves are of the latest design, noiseless Douglass pattern; our seats are reinforced and will not crack or warp.

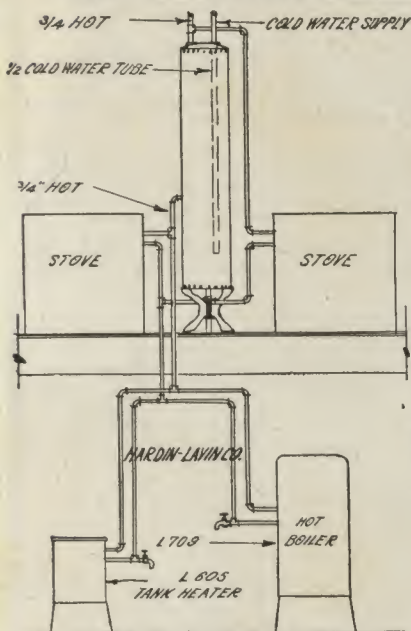
Does it not stand to reason that our outfit is the cheapest and by far the best outfit in the long run?

REMEMBER WE ABSOLUTELY GUARANTEE SATISFACTION



ELEVATION L-194

Showing hot water heater connected to hot water tank. First, set heater as near chimney as possible and put damper in smoke pipe. Then set tank so that top of heater will be level with bottom of tank. Install tank as level as possible and keep fairly close to heater, leaving room to walk around. Be sure to install cold water tube in boiler as shown in dotted lines. Or cold water supply can be connected on bottom of heater inside of drain cock. If hot water tank is vertical, set bottom of tank a little above the bottom of drain cock on heater. Always support tank well with an iron pipe frame. Heater and tank should be washed out at least once a year.

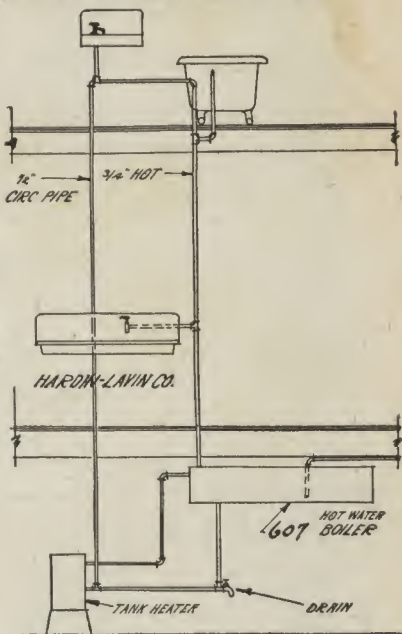


ELEVATION L-195

Showing hot water coil in heating boiler and tank heater in basement with two stoves or heaters on first floor, all properly connected to range boiler on first floor. Be sure that all pipes are pitched or drained towards hot water heater and heating boiler in basement. We show this system connected up with $\frac{3}{4}$ -inch pipe throughout. If coils on first floor are used extensively, it would be advisable to increase to 1-inch on ceiling to and from the tank. All coils should be made and installed so that upper or hot water pipe is the highest point of the coil, and it should gradually drain or pitch towards the bottom of cold water pipe. All hot water pipes should be clamped or hung rigid, as any sag will interfere with the working of job.

HOW TO INSTALL A SEWER USING GLAZED SEWER TILE OR CAST IRON SOIL PIPE

First, it is best to use 6-inch sewer tile or 4-inch soil pipe, which should be laid sufficiently low that finished basement floor will entirely cover up same. Lay the sewer out as straight and even as possible, using Ys and $\frac{1}{8}$ th bends for branches to sink stack, etc. Also install a cleanout Y in some convenient place that sewer can be rodded out if stopped. See sewer cleaning rod, L-563. The sewer should have at least 1 inch pitch or fall to every 10 feet. Cement or calk joints well.



ELEVATION L-196

Showing hot water heater in basement connected to hot water storage tank with $\frac{3}{4}$ -inch hot water supply run to fixtures and $\frac{1}{2}$ -inch circulating pipe returning to bottom of tank heater. Do not use smaller than 1-inch pipe to connect up heater with tank. All connections, if any, on circulating pipe should drain toward the heater. Install hot water boiler as level as possible.

Our fixtures are furnished with Adjustable Iron Pipe Connections. No extra charge.



QUALITY

HARDIN-LAVIN CO. CHICAGO.

QUALITY



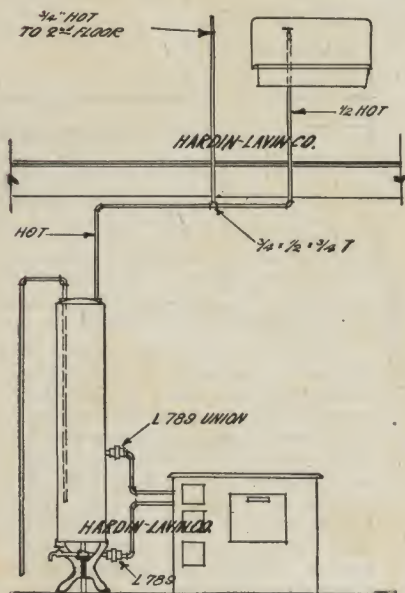
WE MANUFACTURE OUR OWN ENAMELWARE

We make absolutely every known, new, practical enamelware fixture designed.

First, we cast the bodies smoothly and evenly, just heavy enough out of the best grade of iron, which are very important points.

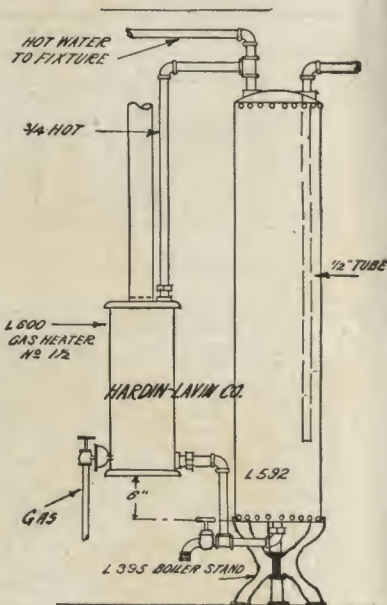
Next, on this perfectly smooth surface, we apply by our latest patent process a sufficient number of coats of PURE WHITE IMPORTED ENAMEL, leaving the fixture with a SMOOTH, WHITE AND DURABLE FINISH on the inside and entirely over and around the rolled rim, as well as a smooth white painted finish on the outside.

Bear in mind that our low priced fixtures are just as lasting as our higher priced ones, for all of this ware is made with our same patent finishing process.



ELEVATION L-197

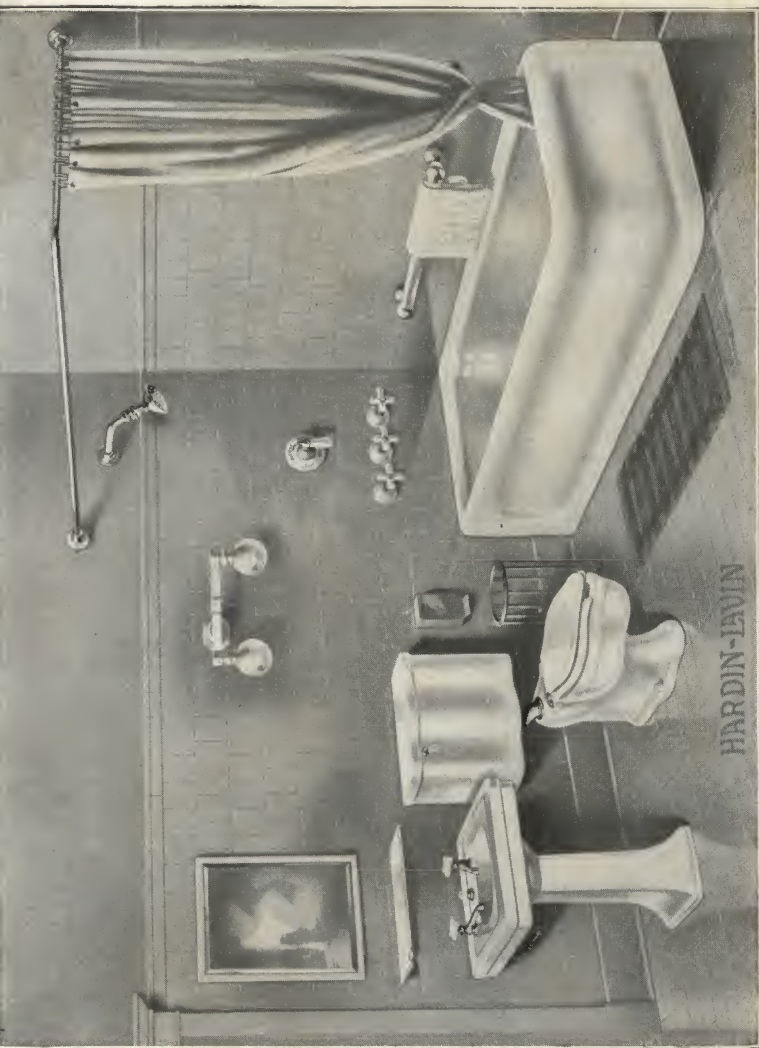
Showing $\frac{3}{4}$ -inch cold water to range boiler with $\frac{3}{4}$ -inch hot water run to sink and bathroom, with $\frac{1}{2}$ -inch branches to fixtures. Connections between boiler and stove should not be less than $\frac{3}{4}$ inch. All drained toward bottom of boiler. Have union on top and bottom connections. Be sure that water enters hot water boiler through cold water tube. Have all pipes drain toward tank. If circ. pipe is wanted, see L-196, which can be connected to bottom of range boiler at union L-789.



ELEVATION L-198

Showing $\frac{3}{4}$ -inch cold water to range boiler and our No. 1 $\frac{1}{2}$ gas heater, connected to boiler. Set bottom of gas heater from 4 to 6 inches above bottom of boiler. Have damper in smoke pipe and connect same to chimney. Our heaters have ground joint unions on top and bottom and can be easily taken off to clean. Tanks should be cleaned twice a year.

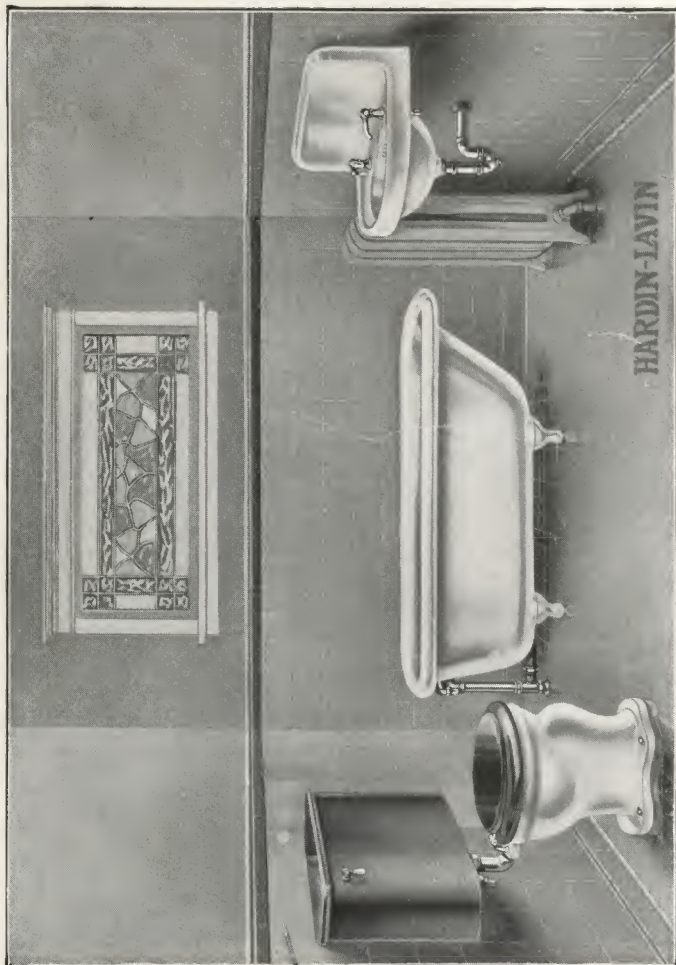
We show you how to do the work.



L-192 ROYAL BATH ROOM OUTFIT

The Royal Bath Room Outfit is one of our most recent and beautiful additions to our complete line—you will find it fully illustrated and described in detail on page 232.

Read what our customers say—pages 8, 130, 161.



L-196. BUNGALOW BATHROOM OUTFIT

This low-priced outfit is just as modern and lasting as our higher priced ones with Beauty and Durability built thru and thru, carrying our first quality guarantee labels.

NEW DESIGNED BATH TUB

Is our highest-grade, porcelain enameled, advanced designed body with $3\frac{3}{4}$ in. turned over roll rim with our adj. Fuller or comp. bath cock; short brass supplies for floor or wall conn.; N. P. brass adj. waste and overflow. Width, $30\frac{1}{4}$ in.; length, $4\frac{1}{2}$ or 5 ft.

ROLL RIM LAVATORY

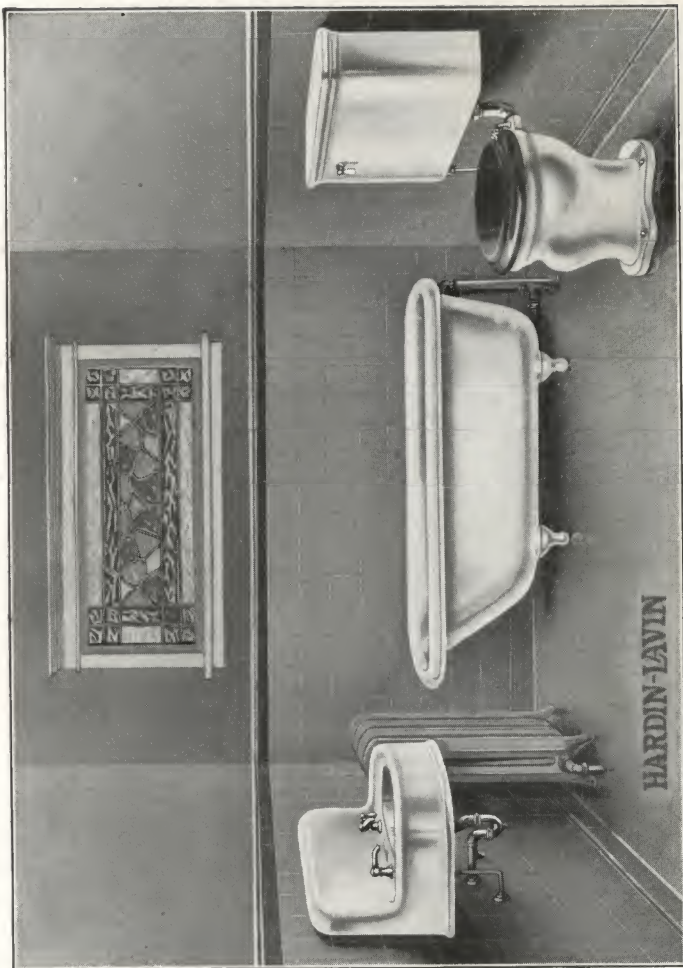
Is our highest-grade, porcelain enameled, one piece rounded roll rim on conc'd hanger; new designed comp. basin faucets, china indexed "hot" and "cold." $1\frac{1}{4}$ N. P. brass adj. trap to floor or wall; conc'd N. P. brass supply connections with unions for floor or wall. Size, $15 \times 16\frac{1}{4}$ in.

SYPHON CLOSET OUTFIT

First-grade, oak copper lined tank with newest improvements and noise silencer, supported on conc'd wall hanger; short N. P. brass supply with union for floor or wall conn.; reinforced oak seat and lid; first quality vitreous syphon wash-down closet bowl.

All fixtures are fitted with our easy, adjustable iron pipe connections. This is a dandy outfit.

List price complete, as shown and described.....\$77.00



L-197 RESIDENCE BATH ROOM OUTFIT

ROLL RIM BATH TUB

Tub is our highest grade, plate L-200 white porcelain enameled bath tub with $3\frac{1}{8}$ -in. turned over roll rim, complete with trimmings.

DROP APRON LAVATORY

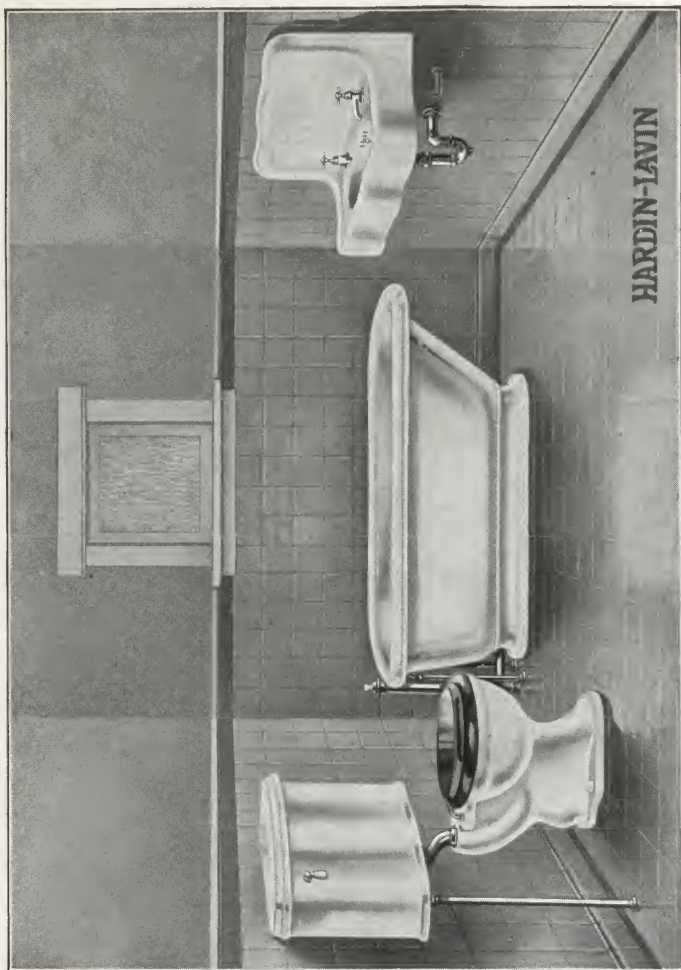
Lavatory is our highest grade plate L-214 drop apron design. Furnished complete with floor or wall trimmings as described. Size $18 \times 21\frac{1}{2}$ in.

COLONIAL VITREOUS CLOSET OUTFIT

Closet is our highest grade plate L-240 white vitreous china, plain colonial design. Neat and durable.

The illustration of the Residence Bath Room Outfit gives you the satisfaction of knowing in advance how the fixtures will appear in your bath room. Note the clean cut symmetrical lines familiar to Hardin-Lavin products.

All furnished complete with our easy adjustable iron pipe connections.
List price complete as shown and described. \$95.00



L-198 MANSION BATH ROOM OUTFIT

SANITARY BASE BATH TUB

Bath Tub is our highest grade plate L-201 sanitary base design, furnished with ideal lifting waste, quick compression bath cock, and N. P. supplies complete. Length $4\frac{1}{2}$ or 5 ft.

SERPENTINE DESIGN LAVATORY

Lavatory is our highest grade plate L-217 furnished complete with heavy N. P. trimmings to floor or wall. Size 18x24 in.

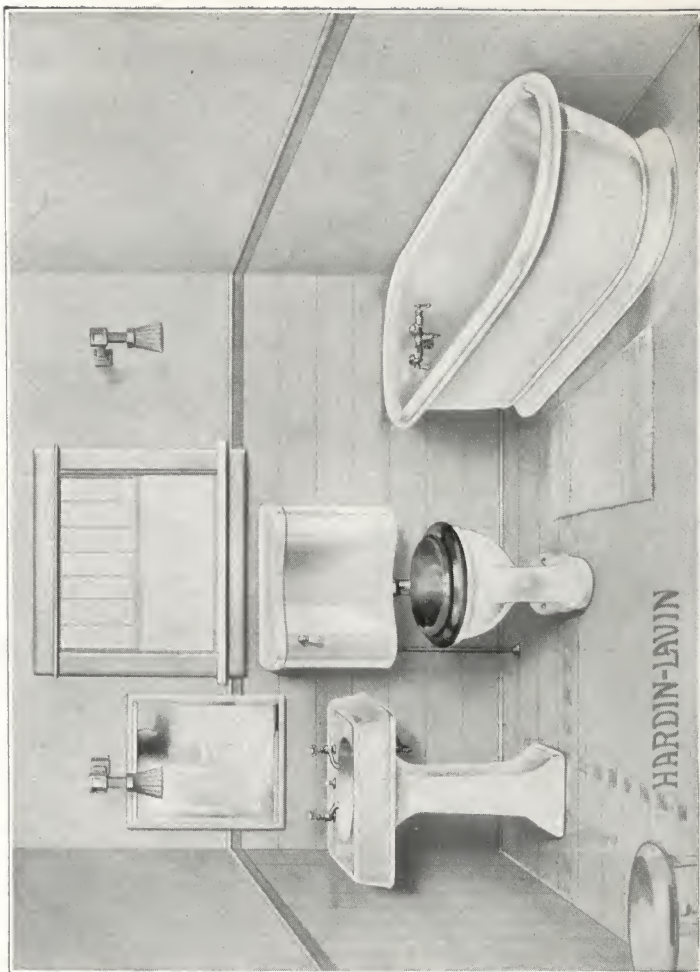
SILENT SYPHON JET CLOSET OUTFIT

Closet Combination is our highest grade plate L-242 noiseless syphon jet serpentine design. A better superfine fixture.

The Mansion Bath Room Outfit is a very practical and attractive combination of fixtures. The sanitary base bath tub, and the simplicity of the design of the fixtures makes it a very desirable outfit.

All furnished complete with our easy adjustable iron pipe connections.

List price, complete as shown and described.....\$130.00



L-193 APARTMENT BATH ROOM OUTFIT

PEDESTAL BATH TUB

Tub is our plate L-201 new design, on sanitary base, equipped with connected waste and overflow, quick compression bath cock, and N. P. supplies to floor.

COLONIAL PEDESTAL LAVATORY

Lavatory is our plate L-224 new design, drop apron, colonial pedestal lavatory, equipped with royal ideal waste, and complete with floor or wall trimmings. Size 20x24 in.

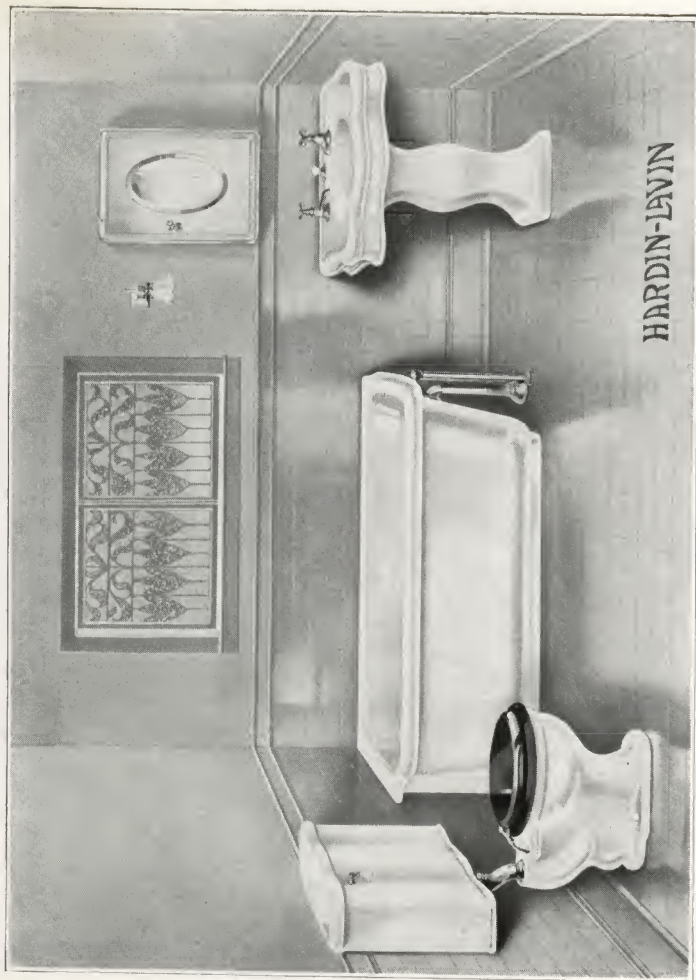
SERPENTINE CLOSET OUTFIT

Closet Combination is our plate L-241, consisting of highest grade vitreous china tank and bowl complete with reinforced mahogany finished seat.

This low-priced combination of fixtures embodies quality, lasting durability, and neatness throughout. It is adapted for installation in all high grade buildings.

Furnished complete with adjustable iron pipe connections.

List price, complete as shown and described.....\$150.00



L-194 CASTLE BATH ROOM OUTFIT

A particularly desirable feature of this outfit is the low, new style, ONE PIECE, enameled bath tub, which tiles into the wall.

ONE PIECE MASSIVE BATH TUB

Tub is our newest plate L-206 low down, one piece, corner tile-in type, porcelain enameled in and outside. Length overall, $4\frac{1}{2}$ or 5 ft. Furnished complete as shown and described.

SERPENTINE DESIGN LAVATORY

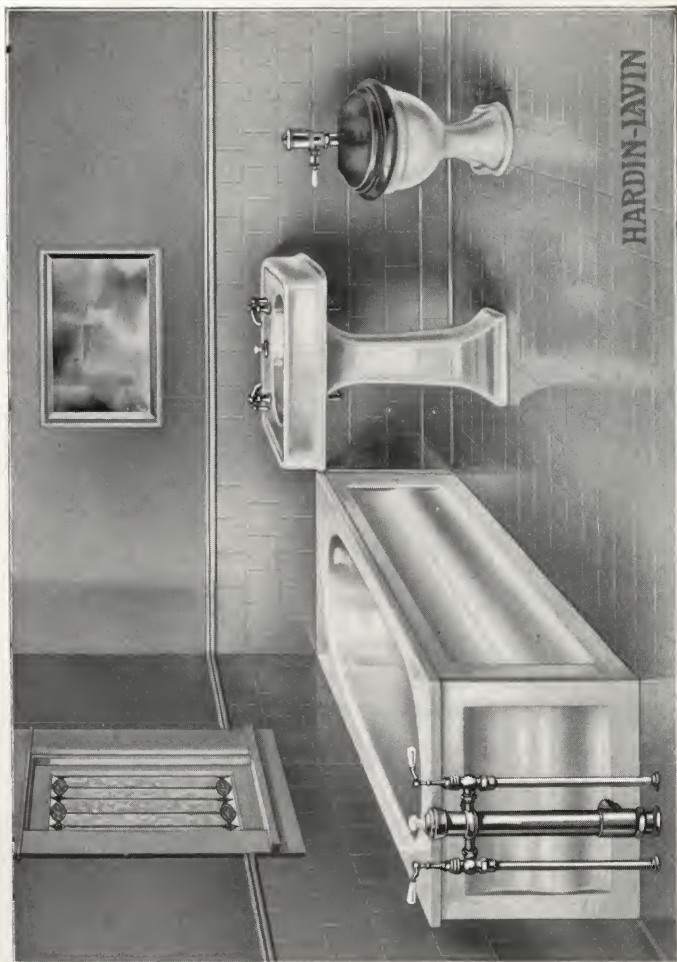
Lavatory is our massive plate L-226 pedestal, serpentine design, size 20x26 in. Furnished complete with floor or wall trimmings as shown and fully described.

SILENT SYPHON JET CLOSET OUTFIT

Closet Combination is our highest grade plate L-242 noiseless, vitreous china closet outfit. Furnished complete as shown and described.

Be sure to state if right or left hand corner tub is wanted.

List price, complete as shown and described.....\$175.00



L-199 PALACE BATH ROOM OUTFIT

When a highly elaborate combination of fixtures is desired, the Palace Bath Room Outfit can be had at a cost that is very reasonable. Beauty, utility, and lasting durability are its in-built points of superiority.

TILE-IN BATH TUB

Tub is our highest grade plate L-209 tile-in Venice Bath Tub. Furnished complete with combination supply and waste fittings as shown and described. Length $4\frac{1}{2}$ or 5 ft.

PEDESTAL APRON LAVATORY

Lavatory is our plate L-224 new design, drop apron, colonial pedestal lavatory, equipped with royal ideal waste, and complete with floor or wall trimmings. Size 22x26 in.

FLUSHOMETER CLOSET OUTFIT

Closet Combination is our newest, highest grade plate L-243 tankless closet outfit with noiseless, silent syphon jet bowl.

State whether right or left hand corner tub is wanted.
All furnished complete with our easy adjustable iron pipe connections.

List price, complete as shown and described.....\$195.00



L-100 SHEET STEEL BATH TUB

The tub is constructed of heavy galvanized steel, painted white enamel finish on inside, and blue outside. Rim of tub is three inch oak, well rounded and finished in natural oak color. Tub is fitted with heavy connected waste and overflow pipe, chain and stopper, N. P. china handle quick compression bath cock with handles indexed Hot and Cold. A neat and serviceable fixture for temporary installation or for summer cottage equipment.

Threaded for 1 in. iron pipe connections.

4½ Ft. Complete—List Price	\$29.00
5 Ft. Complete—List Price	30.00
5½ Ft. Complete—List Price	32.00

HEATING ESTIMATE RULE

Exact heating capacity of pipe per foot.

45 in. of ¾-in. pipe equals 1 sq. ft. of radiation.
36 in. of 1 -in. pipe equals 1 sq. ft. of radiation.
28 in. of 1¼-in. pipe equals 1 sq. ft. of radiation.
24 in. of 1½-in. pipe equals 1 sq. ft. of radiation.
20 in. of 2 -in. pipe equals 1 sq. ft. of radiation.
16 in. of 2½-in. pipe equals 1 sq. ft. of radiation.
13 in. of 3 -in. pipe equals 1 sq. ft. of radiation.
12 in. of 3½-in. pipe equals 1 sq. ft. of radiation.
11 in. of 4 -in. pipe equals 1 sq. ft. of radiation.
10 in. of 4½-in. pipe equals 1 sq. ft. of radiation.



PLATE L-200 "ST. LOUIS" BATHTUB

Highest-grade porcelain enameled bathtub with our 20th Century designed body and $3\frac{1}{8}$ in., beautifully formed turned over rolled rim. Legs fastened with our Hardin-Lavin patd. non-come-off device; fitted with heavy pattern N. P. Fuller batch cock, indexed "hot" and "cold." With N. P. brass adjustable lock nuts on inside and outside of tub; heavy brass N. P. waste and overflow; N. P. brass supplies. All trimmings fitted with our patd. easy adjustable iron pipe conns. Width, $30\frac{1}{8}$ in.; height to top of tub, $22\frac{3}{4}$ in.; depth inside, $17\frac{1}{4}$ in.

4	ft. complete.....	\$37.00
4½	ft. complete.....	38.50
5	ft. complete.....	38.90
5½	ft. complete.....	43.50

Same bathtubs, 26 in. wide and 2 in. rolled rim, same prices.

OUR INDIVIDUAL DESIGNED ENAMELWARE

In looking over our enamelware, you can see that we have the newest, most modern, practical and sanitary fixtures manufactured as well as a complete line to select from. We manufacture our own enamelware and can justly say that IT IS FAR SUPERIOR TO ANY PRODUCT IN THIS LINE EVER OFFERED BEFORE AND OUR PRICES ARE RIGHT. Remember—there are a great many different grades of enamelware on the market. However, your assurance that our fixtures are HIGHEST-GRADE, FIRST QUALITY, BEAUTIFUL IN APPEARANCE as well as DURABLE, is that each fixture that leaves our plant carries with it our HIGH-GRADE GUARANTEE LABEL.



PLATE L-201 "NEW YORK" BATHTUB

Atlantic pattern highest-grade porcelain enameled Hardin-Lavin latest designed body with our new $3\frac{1}{8}$ -in. beautifully formed turned over rolled rim. Tub is on modern, close fitting extended rolled pedestal base, fastened with our non-come-off device; fitted with our new design N. P. china indexed Royal Ideal Lifting Waste; heavy pattern N. P. Fuller bath cock, indexed "hot" and "cold." With N. P. brass adjustable lock nuts on inside and outside of tub. All trimmings fitted with our Hardin-Lavin patd. easy adjustable iron pipe conns. Width, $30\frac{1}{8}$ in.; height to top of tub, $22\frac{3}{4}$ in.; depth inside, $17\frac{1}{4}$ in.

$4\frac{1}{2}$ ft. complete.....	\$51.50
5 ft. complete.....	53.25
$5\frac{1}{2}$ ft. complete.....	58.30

HOW TO MAKE HARDIN-LAVIN EVERLASTING CEMENT

Will repair roofs, galvanized iron, earthenware, closet bowls, etc. Take equal parts of crystallized shellac and pine tar. Mix same together and boil for one hour or until ingredients are properly mixed. A double boiler or steamer should be used for this, as the mixture is apt to take fire and burn if there is no water around the kettle it is boiled in.

DIRECTIONS

Clean and dry where cement is to be used. Heat up cement and apply. This cement will keep indefinitely.



PLATE L-202 "LONDON" BATHTUB

Improved type highest-grade porcelain enameled European latest designed body with our new beautifully formed $3\frac{1}{8}$ in. turned over rolled rim. Tub is on modern, close fitting extended rolled pedestal base, fastened with our non-come-off device. Trimmings are 20th Century combination Royal Ideal Lifting waste and faucet outfit. All china indexed. Faucet does not show on inside of tub. Water enters through our new bell delivery. All trimmings fitted with our Hardin-Lavin easy adjustable iron pipe connections. Width, $30\frac{1}{8}$ in.; height to top of tub, $23\frac{3}{4}$ in.; depth inside, $17\frac{1}{4}$ in.

$4\frac{1}{2}$ ft., length over all 57 in., complete.....	\$75.70
5 ft., length over all 63 in., complete.....	76.70
$5\frac{1}{2}$ ft., length over all 69 in., complete.....	81.90

WHY YOU SHOULD BUY YOUR ENAMELWARE FROM US

1st. We have been in the Wholesale Plumbing and Heating Supply business for over 40 years.

2d. We have made this business a life study and therefore we are in a better position to serve you than the concern who handles these goods as side lines.

3d. We manufacture our own enamelware and therefore we do not hesitate to apply our guarantee label on each fixture.

4th. WE ABSOLUTELY GUARANTEE SATISFACTION.

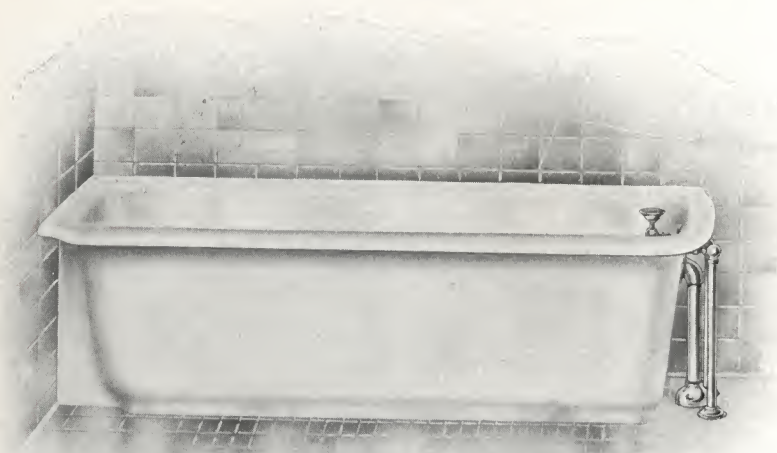


PLATE L-206 TILED-IN "EDEEN" BATHTUB

Newly patented highest-grade porcelain enameled corner bathtub and base cast in one piece. Enameled on inner and outer exposed sides. With our new beautifully formed $3\frac{1}{8}$ in. turned over rolled rim. Tiled-in extension on drain fitted with heavy pattern N. P. Fuller bath cock, indexed "hot" and "cold," with N. P. adjustable lock nuts on inside and outside of tub. Our Hardin-Lavin special adjustable N. P. connected waste and overflow; heavy N. P. brass supplies. All trimmings fitted with our Hardin-Lavin patented easy adjustable iron pipe conns. This is one of the most modern and artistically designed bathtubs manufactured. It is made for right or left hand corner. Width to finished wall line, 29 in.; height to top of tub, $17\frac{3}{4}$ in.; depth inside, 17 in. State which corner is wanted.

$4\frac{1}{2}$ ft., length to wall $53\frac{3}{4}$ in., complete, enameled all over.. **\$86.90**
 5 ft., length to wall $59\frac{3}{4}$ in., complete, enameled all over.. **90.50**
 $5\frac{1}{2}$ ft., length to wall $65\frac{3}{4}$ in., complete, enameled all over.. **96.80**

ENAMELWARE IS VERY DECEIVING

It is only natural that we should be able to give you the best value for your money, the most prompt delivery and the best and easiest practical information that is known, for we have made a life study of plumbing and heating supplies only. In addition to each fixture bearing our guarantee label, you have our 40 years of practical experience and \$500,000.00 plants behind our bonded guarantee. Do not forget **WE MANUFACTURE OUR OWN ENAMELWARE** and experience has taught us that there is more deception in enameled iron goods than in any other ware manufactured. However, when you buy from us, you get the best quality at a reasonable price, with our free information and service that you might need from time to time.



PLATE L-207 "ETRUSCAN" BATHTUB

Patented semi-roman highest-grade porcelain enameled with our new beautifully formed $3\frac{1}{8}$ in. turned over rolled rim. Tub and pedestal base cast in one piece. Enameled on inner and outer exposed sides; fitted with our Hardin-Lavin china indexed improved Royal Ideal lifting waste and china indexed combination comp. supply faucets, marked "hot" and "cold." Heavy N. P. brass supplies with unions. Faucets do not show on inside of tub. Water enters through our new special low bell delivery. All trimmings fitted with our Hardin-Lavin easy adjustable iron pipe conns. This is one of the most beautiful and up-to-date tubs on the market. Height to top of tub, $17\frac{3}{4}$ in.; depth inside, 17 in.; width to finished wall, 29 in.

5 ft. complete, enameled all over.....\$113.80

CEMENT TO REPAIR CRACKS IN LAUNDRY TUBS

A good cement can be made for repairing cracks in laundry tubs by mixing an even quantity of powdered litharge and liquid glycerine well together. Sufficient amount should be mixed for immediate use only as it sets soon after it is mixed and becomes very hard. Be sure to clean out soap and dirt from crack well before applying cement; then work cement into crack with your finger or a small trowel.



PLATE L-208 TILED-IN "MONA" BATHTUB

Latest patented highest-grade porcelain enameled tiled-in bathtub and base cast in one piece, enameled on inner and outer exposed side with our new beautifully formed turned over rolled rim on outer side and flat-formed rim on ends and back; concealed supplies and waste. Supplies controlled by our china indexed comp. faucets, marked "hot" and "cold." Waste operated by our china indexed side wall controller. Water enters through our new low bell delivery. All trimming heavily nickel-plated and can be furnished for either end of tub. This is one of the most modern and exclusive bathtubs manufactured and is fitted with our Hardin-Lavin adjustable iron pipe connections. Width to finished wall, 29 in.; height to top of tub, $17\frac{3}{4}$ in.; depth inside, 17 in.

$4\frac{1}{2}$ ft., length between walls $52\frac{1}{4}$ in., complete, enameled all over	\$103.80
5 ft., length between walls $58\frac{1}{4}$ in., complete, enameled all over	106.50
$5\frac{1}{2}$ ft., length between walls $64\frac{1}{4}$ in., complete, enameled all over	114.70

OUR PRICES ARE NOT MISLEADING

In looking over our prices, note that they are on complete fixtures fitted throughout with our Hardin-Lavin patented easy adjustable iron pipe connections. Our traps, connected waste and overflow, supplies, etc., in fact all trimmings are absolutely the newest, most practical and easily installed on the market. **THERE ARE NO EXTRA CHARGES.**

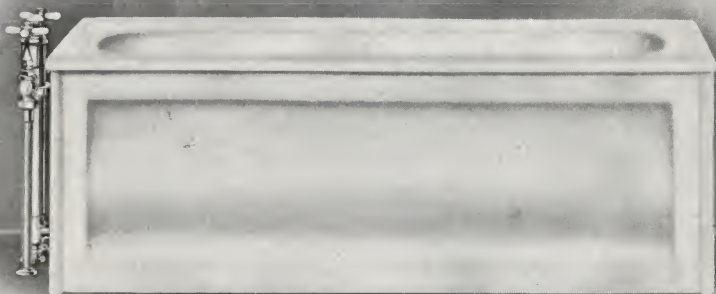


PLATE L-209 NEW TILED-IN "VENICE" BATHTUB

This tiled-in bathtub is the latest creation in bathroom fixtures. It is of the very highest-grade porcelain enameled on inner and outer exposed side and ends with $3\frac{5}{8}$ in. flat rounded rim. Square design Venetian body. Has recessed paneled front and ends; fitted with our new improved china indexed Royal Ideal lifting waste and china indexed comp. faucets, marked "hot" and "cold," combination. Heavy N. P. brass supplies. Water enters through our new special low bell delivery. All trimmings are fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections. This is one of the most beautiful, artistic and elegant tubs manufactured and can be furnished for either right or left-hand corner. Width over all, $30\frac{1}{2}$ in.; width of flat rim, $3\frac{3}{4}$ in.; height to top of tub, 23 in.; depth inside, $17\frac{1}{4}$ in.; width to finished wall, $29\frac{1}{2}$ in.

5 ft., length over all 61 in., enameled all over, complete.... \$126.40
 $5\frac{1}{2}$ ft., length over all 67 in., enameled all over, complete.... 132.90

HOW TO MAKE SOLDER

A good formula for making solder is as follows: 3 parts of lead and 2 parts of tin. This combination will satisfy the wants of a plumber. This solder requires considerable attention in making and if made a trifle too coarse, the result will be a rough looking joint when used for wiping. In testing out this solder, pour same out on a cold surface and allow same to cool. If it has a mottled appearance, it has about the correct proportions. If it has a very bright appearance, the indications are that it has too much tin and is somewhat fine for the average workman. In making solder, it is well to stir it in view of the fact that tin, being lighter, rises to the top, separating from the lead.



PLATE L-210—BABY OR SITZ BATH

Highest-grade porcelain enameled latest designed baby bath body. Has our Hardin-Lavin 5 ft. flat turned over rim and $3\frac{1}{3}$ in. rolled rim on elevated back. Tub is on new designed, close fitting, extended pedestal base, fastened with our patented non-come-off device. Has our new special heavy pattern china indexed Royal Ideal Lifting waste and china indexed comp. faucets marked "hot" and "cold." All carried through end of rim. Heavy N. P. brass supplies. This is a grand and necessary fixture for a completely equipped bathroom. Width over all, 34 inches; front to back over rim, $31\frac{1}{2}$ inches; height to top of rim at back, 23 inches; height to top of rim at front, 15 inches; depth inside, 10 inches.

Complete as described.....\$102.50

HOW TO INSTALL A BATHTUB IN A BATHROOM WHERE THERE IS NOT SUFFICIENT ROOM

A very satisfactory plan is to cut away about 2 inches of the plaster or wood wall at end of tub. Then let rim of tub extend two or more inches into this opening. Refinish around rim of tub with wood or plaster paris.

HOW TO PROPERLY READ A TEE

Give the size on the run first and on the branch last. That is, $\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$ in. The last or $\frac{3}{8}$ in. opening would be on the side.



PLATE L-212. LAVATORY

Size 15x16 $\frac{1}{4}$ in.; Back, 6 in.

A popular priced highest-grade porcelain enameled, one-piece lavatory on our patented concealed wall hanger; integral overflow and depressed soap dish; fitted with our new designed low-down china indexed base; comp. faucets, marked "hot" and "cold." Heavy pattern adjustable N. P. brass trap to floor or wall; N. P. adjustable supplies to floor or wall. All trimmings fitted with our Hardin-Lavin easy adjustable iron pipe conns.

Price complete as shown and described.....\$14.80



PLATE L-213. LAVATORY

Size 16x19 $\frac{1}{2}$ in.; Back, 7 in.

New designed highest-grade porcelain enameled, one-piece lavatory on our patented concealed wall hanger; integral overflow and depressed soap dish with our N. P. chain stay; heavy pattern new designed low-down china indexed comp. basin faucets, marked "hot" and "cold." 1 $\frac{1}{4}$ in. heavy pattern N. P. brass adjustable trap to floor or wall. N. P. brass adjustable supplies to floor or wall; fitted throughout with our Hardin-Lavin easy adjustable iron pipe conns.

Price complete as shown and described.....\$16.20



PLATE L-214 DROP APRON LAVATORY

Height of back, 8 in.; D shaped basin, 11x15 in.

A very neat and serviceable high-grade porcelain enameled half-circle, deep drop apron lavatory on our patd. concealed wall hanger; integral overflow and N. P. chain stay, depressed soap dish. New designed extended base, heavy pattern, lowdown chain, indexed comp. faucets, marked "hot" and "cold." 1¼-inch heavy N. P. adjustable brass top to floor or wall. Adjustable N. P. tubing supplies to floor or wall. All fitted with our Hardin-

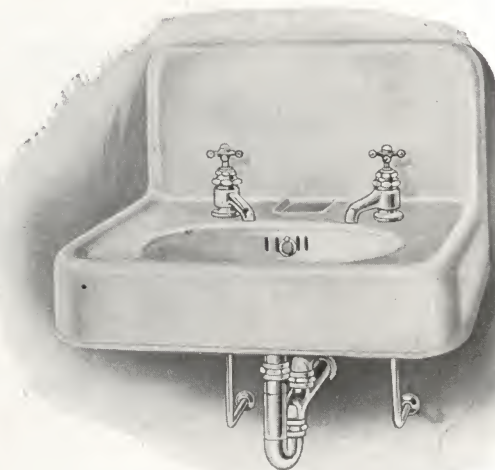
Lavin easy adj. iron pipe connections. Comp. faucets furnished unless otherwise specified.

18x21½ in., price complete as shown and described.....\$20.50

PLATE L-215 SQUARE DESIGN DROP APRON LAVATORY

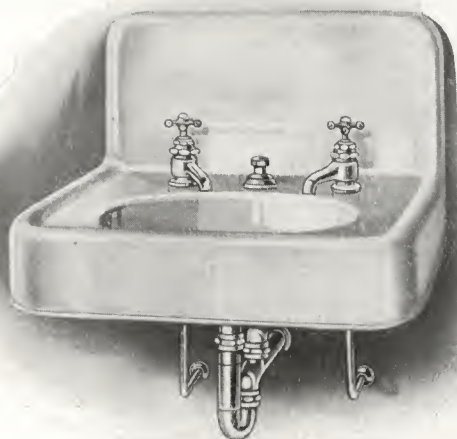
Height of back, 10 in.; D shaped basin, 11x15 in.

Large, massive, highest grade porcelain enameled, one-piece drop apron lavatory, concealed wall hanger; fitted with integral overflow; N. P. chain stay and depressed soap dish; heavy pattern, new designed extended base; china indexed comp. basin faucets, marked "hot" and "cold." 1¼-inch heavy pattern N. P. brass adjustable trap to floor or wall. N. P. brass adjustable supplies to floor or wall. All threaded with our Hardin-Lavin easy adj. iron pipe conns.



18x24 in., complete as shown.....\$26.50
20x24 in., complete as shown.....28.60

PLATE L-216 NEW SQUARE DESIGN DROP APRON LAVATORY WITH IDEAL WASTE



Height of back, 10 in.; D shaped basin, 11x15 in.

Highest-grade porcelain enameled one-piece "Colonial" designed lavatory on our patd. concealed wall hanger; with our special made china indexed Royal Ideal lifting waste; new extended base; heavy pattern china indexed comp. faucets, marked "hot" and "cold." 1¼ in. N. P. brass

adj. trap to floor or wall; adj. N. P. brass supplies to floor or wall; fitted throughout with our Hardin-Lavin easy adjustable iron pipe conns. This is a very attractive fixture with our special Royal Ideal waste.

18x24 in., comp. as shown. **\$30.50** 20x24 in., comp. as shown. **\$33.70**

**PLATE L-217
SERPENTINE DROP
APRON LAVATORY**

Height of back, 10 in.; D shaped basin, 11x15 in.

Newest designed highest-grade porcelain enameled one-piece Serpentine drop apron lavatory on patd. concealed wall hanger, integral overflow; N. P. chain stay; new designed extended base; heavy pattern lowdown china indexed comp. basin faucets, marked "hot" and "cold." 1¼ in. N. P. brass heavy pattern adj. trap to floor or wall. N. P. brass adj. supplies to floor or wall. All fitted throughout with our Hardin-Lavin easy adj. iron pipe conns. An exceptionally classy lavatory of striking appearance.



18x24 in., complete as shown. **\$26.80**
20x24 in., complete as shown. **29.00**



L-218

**PLATE L-218. NEW
SERPENTINE DROP
APRON LAVATORY
WITH LIFTING
WASTE**

Back 10 in.; D-shape basin
11x15 in.

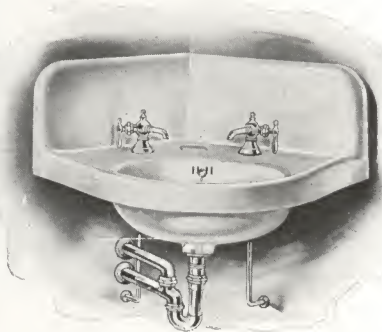
An attractive, modern designed, highest-grade porcelain enameled one-piece thoroughly Serpentine drop apron lavatory with our new special china indexed Royal Ideal lifting waste; new designed extended base, heavy pattern lowdown china indexed comp. faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall; adjustable N. P. brass supplies to floor or wall.

All fitted with our Hardin-Lavin patd. iron pipe conns. This lavatory will meet the requirements of a modern and up-to-date bathroom.

18x24 in., comp. as shown and described.....\$29.80
20x24 in., comp. as shown and described..... 31.60

**PLATE L-219. CORNER
LAVATORY**

A neat, high-grade porcelain enameled one-piece corner lavatory on concealed wall hanger; integral overflow; N. P. chain stay and depressed soap dish; new designed extended base, heavy pattern china indexed low-down comp. faucets, marked "hot" and "cold." 1¼ in. N. P. adj. heavy pattern brass trap to floor or wall; N. P. adjustable brass supplies to floor or wall, with our Hardin-Lavin easy adjustable iron pipe conns. This is a very high-grade and serviceable corner lavatory and will meet the requirements of the average corner fixture. Comp. faucets furnished unless otherwise specified. Length of sides, 19¼ in.; back, 8 in.; D-shape basin, 11x15 in.



L-219

Price, complete as shown and described.....\$21.80

PLATE L-220 CORNER DROP APRON LAVATORY



Newly designed highest-grade porcelain enameled one-piece drop apron extended body corner lavatory on our patd. concealed wall hanger; integral overflow; N. P. chain stay; depressed soap dish; new designed extended base heavy pattern low-down china indexed comp. faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall; N. P. adjustable brass supplies to floor or wall; fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections. This is a very

ornamental, substantial and serviceable lavatory and a very appropriate corner fixture for any bathroom. Comp. faucets furnished unless otherwise specified. Length of side, 19¼ in.; height of back, 8 in.; D shape basin, 11x15 in.

Price complete as shown and described.....\$22.80

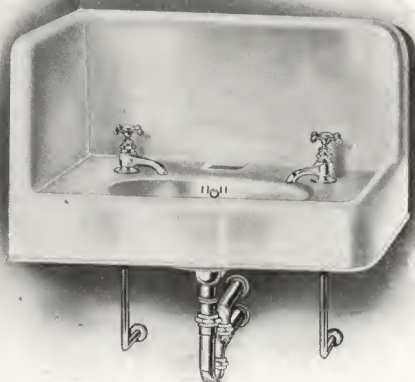
PLATE L-221 DROP APRON LAVATORY WITH IDEAL WASTE

Highest-grade porcelain enameled drop apron extended body corner lavatory on concealed wall hangers; fitted with our latest patd. china indexed special Royal Ideal lifting waste; new designed extended base heavy pattern lowdown four arm comp. basin faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall, N. P. adjustable brass supplies to floor or wall; fitted throughout with our Hardin-Lavin easy adjustable iron pipe conns. Length of sides, 19¼ in.; height of back, 8 in.; D shape basin, 11x15 in.



Price, complete as shown and described.....\$28.90

**PLATE L-222
COLONIAL DROP
APRON LAVATORY**



Special extended corner lavatory, high-grade porcelain enameled on our patd. concealed wall hangers; integral overflow; new designed extended base heavy pattern lowdown china indexed comp. faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall; N. P. brass adjustable supplies to floor or wall. All fitted with our Hardin-Lavin patd. easy adjustable iron pipe conns. Lavatory can be furnished for

right or left hand corner. Height of back, 10 in.; basin, 11x15 in.

18x24 in. price, complete as shown and described.....**\$31.90**

20x24 in. price, complete as shown and described..... **35.60**

**PLATE L-223
COLONIAL DROP
APRON LAVATORY**

Highest-grade porcelain enameled lavatory and pedestal with concealed integral overflow and chain stay; new designed heavy pattern extended base lowdown china indexed comp. faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall; N. P. brass adjustable supplies to floor or wall. All fitted with our Hardin-Lavin easy adjustable iron pipe conn. An attractive lavatory for a modern home. Basin, 11x15 in.

20x24 in., price, complete as shown and described**\$35.20**





PLATE L-224. NEW DESIGN COLONIAL PEDESTAL DROP APRON LAVATORY WITH IDEAL LIFTING WASTE

Highest-grade porcelain enameled drop apron lavatory and pedestal with our latest improved Royal Ideal lifting waste; new designed extended base, heavy pattern low-down china indexed comp. basin faucets, marked "hot" and "cold." $1\frac{1}{4}$ in. heavy pattern N. P. adjustable brass trap to floor or wall; N. P. adjustable brass supplies to floor or wall. All fitted with our Hardin-Lavin patd. easy adjustable iron pipe conns. A strictly high-grade lavatory fitted with latest improved waste. Basin 11x15 in. 20x24 in., price complete as shown and described.....\$41.80 20x26 in., price complete as shown and described..... 48.70

HOW TO PREVENT POLISHED IRON OR STEEL FROM RUSTING

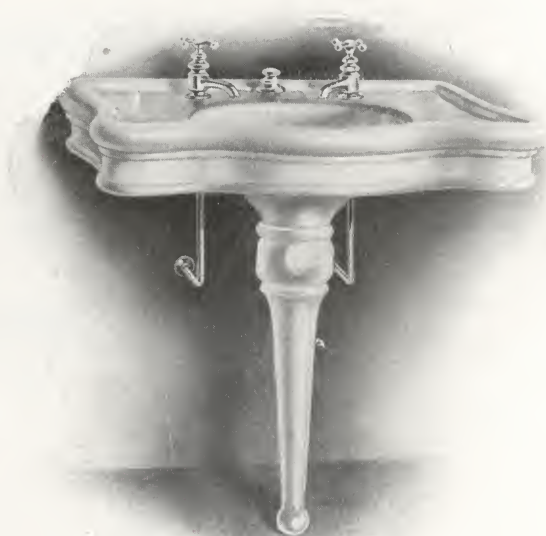
Mix one part beeswax with two parts benzine and paint on surface. This will protect same from rusting in damp seasons.

HOW TO PREVENT BLACK PIPE FROM RUSTING

Cover surface with mixture of one pound lard, one ounce of camphor and one ounce of black lead. This will protect it for a long time.

TO REPAIR A LEAK IN IRON FITTINGS

If the leak is not too large, it can be closed by carefully calking it with a round nose calking tool. A larger leak may be closed by calking into it a piece of lead.



**PLATE L-225. SERPENTINE DROP APRON PEDESTAL
LAVATORY WITH ROYAL IDEAL WASTE**

Highest-grade porcelain enameled American design Serpentine drop apron lavatory and tapering pedestal; fitted with our improved type china indexed Royal Ideal lifting waste; new design extended base, heavy pattern low-down comp., faucets marked "hot" and "cold." $1\frac{1}{4}$ in. N. P. adjustable brass trap to floor or wall; N. P. adjustable brass supplies to floor or wall. All fitted with our Hardin-Lavin easy adjustable iron pipe conns. An unusual attractive serpentine lavatory with center pedestal, which gives the lavatory a very stately appearance. D shape basin, 11x15 in. 20x26 in., price complete as shown and described.....\$56.30

**HOW TO REPAIR LEAK IN LEAD PIPE WHERE WATER
CANNOT BE ENTIRELY SHUT OFF**

Sometimes this can be done by inserting white baker's bread, pushing it back from joint about 12 in. from where you intend to wipe the joint. Do not pack it tight. Then make your joint quickly and turn on water immediately. This will force out the bread. Be sure to have the bread far enough away from joint that same will not bake in pipe when you are wiping the joint. Or raise up lead where you are going to repair, tapping small, round nail hole on top of supply at the lowest point on feed end. This will drain the leakage out until you make joint. Insert wooden plug; turn over small chip of lead with knife to hold plug. Then cover with solder, using hot soldering iron.



**PLATE L-226. SERPENTINE PEDESTAL LAVATORY
WITH IDEAL WASTE**

Highest-grade porcelain enameled drop apron Serpentine lavatory on full enameled Serpentine pedestal; fitted with our new improved Royal Ideal lifting waste; heavy pattern new design extended base china indexed comp. faucets, marked "hot" and "cold." $1\frac{1}{4}$ in. heavy pattern adjustable N. P. brass trap to floor or wall. N. P. supplies to floor or wall with our Hardin-Lavin patd. easy adjustable iron pipe conns. This lavatory shows the latest improvements in the design of plumbing fixtures and is fitted with improved type of waste. D shape basin, 11x15 in. 20x26 in., price complete as shown and described.....\$61.60

**PROTECTION OF LEAD PIPES FROM ACTION OF
WATER**

Many waters affect lead water supply pipes injuriously, not only acting chemically on lead, but also poisoning the water. To remedy this, fill the piping you are going to use with warm, concentrated solution of sulphid of potassium or sodium and allow same to stand in lead piping for about 20 minutes. This will give the inside surface of the lead piping a coating which the water will not take off and will prevent any lead poisoning to the users of water. After standing the required length of time, the solution should be blown out and the piping thoroughly flushed before using.



L-227

PLATE L-227 NEW OVAL DESIGN PEDESTAL LAVATORY WITH ROYAL IDEAL WASTE

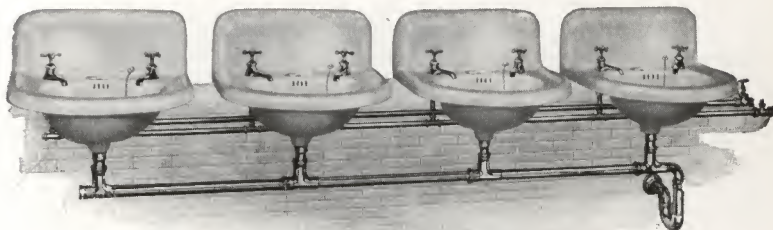
Highest-grade porcelain enameled drop apron lavatory on porcelain enameled fluted pedestal; fitted with our latest improved type Royal Ideal lifting waste; heavy pattern new design extended base comp. faucets, marked "hot" and "cold." 1¼ in. heavy pattern N. P. adjustable brass trap to floor or wall; N. P. adjustable brass supplies to floor or wall. All fitted with our Hardin-Lavin easy adjustable iron pipe conns. A strictly high-grade modern lavatory of artistic design.

20x30 in., basin 11x15 in., price complete as shown and de- scribed	\$53.00
24x33 in., basin 14x18 in., price complete as shown and de- scribed	60.90

FIXTURES

We do not claim to have the most elaborate and extensively designed fixtures on the market, yet we have the most complete line of up-to-date, serviceable and medium priced plumbing and heating supplies manufactured.

Our low priced fixtures are just as lasting and perfect as our higher priced ones, for everything that leaves our plant is **GUARANTEED TO GIVE ABSOLUTE SATISFACTION.**



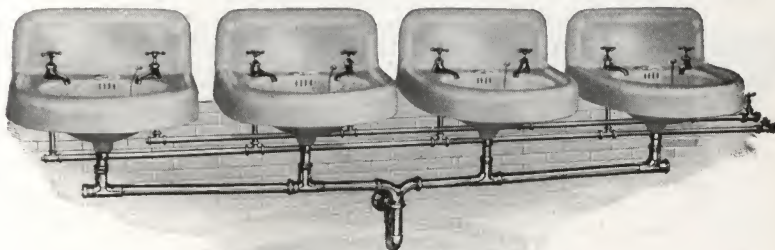
L-228

PLATE L-228 HALF CIRCLE LAVATORY COMBINATION

Size, 16x19½ in.; height of back, 8 in.; D shape basin, 10x14 in.

Special design, highest grade porcelain enameled lavatory combinations on our patented concealed wall hangers; integral overflow; N. P. chain stay and depressed soap dish; fitted with new design extended base heavy pattern lowdown china indexed compressed basin faucets, marked "hot" and "cold." 1¼-inch N. P. brass continuous waste with cleanout on end. 1¼-inch N. P. adjustable brass trap to floor or wall with plain supply pipes. All fixtures fitted with our Hardin-Lavin patented easy adjustable iron pipe connections. The above lavatory combinations are designed for use in factories, hotels, schools, etc.

Two lavatories complete as shown and described.....\$29.50
Add for each additional lavatory..... 15.90



L-229

PLATE L-229 DROP APRON HALF CIRCLE LAVATORY COMBINATION

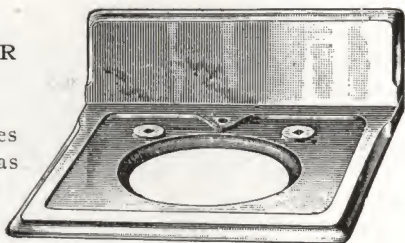
Size, 18x21 in.; height of back, 10 in.; D-shaped basin, 10x14 in.

Latest pattern drop apron highest grade porcelain enameled half-circle lavatories on our patented concealed wall hanger; integral overflow; N. P. chain stay and depressed soap dish; fitted with our heavy pattern new design extended base china indexed compression faucets, marked "hot" and "cold." 1¼-inch heavy brass N. P. continuous waste with cleanouts. 1¼-inch N. P. adjustable brass trap to floor or wall. Plain supplies. All trimmings fitted with our Hardin-Lavin patented easy adjustable iron pipe connections. The above lavatories can be furnished with any style trap. We can furnish individual supplies and traps with each lavatory in place of continuous waste supplies, as illustrated.

Two lavatories complete as shown and described.....\$37.20
For each additional lavatory add..... 20.30

MARBLE LAVATORIES FOR ALL PURPOSES

We make to order all sizes and designs; any color marble as per your specifications. Prices on application.



L-230

EARTHENWARE BASINS

Round



L-231

Common overflow
metal plug.

14x14. Price....\$1.80

Round



L-232

Patented overflow
metal plug.

14x14. Price....\$1.90

Round



L-233

Patented overflow
rubber plug.

14x14. Price....\$2.20

Oval



L-234

Common overflow
metal plug.

14x17. Price....\$3.20
15x19. Price.... 4.40

Oval



L-235

Patented overflow
metal plug.

14x17. Price....\$4.50
15x19. Price.... 5.30

Oval



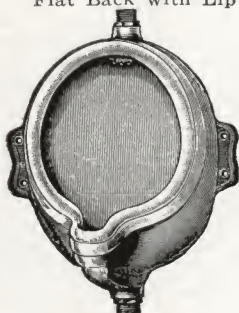
L-236

Patented overflow
rubber plug.

14x17. Price....\$5.00
15x19. Price.... 5.80

EARTHENWARE URINALS

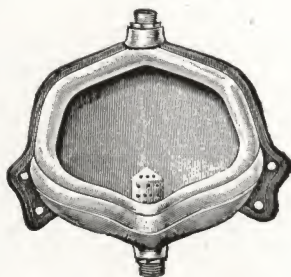
Flat Back with Lip



L-237

13x15. Price.....\$11.00
15x18. Price..... 13.50

Corner with Lip



L-238

16 1/2 x 11 1/2. Price.....\$11.80
13 x 13. Price..... 15.70



L-239

PLATE L-239 LATE DESIGNED SYPHON WASHDOWN CLOSET OUTFIT

Modern, high-grade, finest finished oak, copper lined tank fitted with our latest improved elevated compound lever ball cock with thumb screw adjustments and sound deadening filler; latest improved Douglass syphon plunger valve; elevated china lever tripping device, supported on concealed wall hanger; N. P. brass supply to floor with adjustable iron pipe conns. 2 in. N. P. adjustable brass flush conn.; reinforced oak seat with heavy N. P. brass hinges; highest-grade vitreous syphon washdown closet bowl. A modern, low-priced fixture, high-grade and artistically designed. Complete, as shown and described.....\$23.50



**PLATE L-240 COLONIAL VITREOUS CHINA SYPHON
WASHDOWN CLOSET OUTFIT**

A substantial high-grade closet combination with vitreous china Colonial tank fitted with our latest improved elevated compound lever ball cock with thumb screw adjustments and sound deadening filler; new improved Douglass syphon plunger valve; elevated china lever tripping device; N. P. brass supply to floor with adjustable iron pipe conns. 2 in. N. P. adjustable brass flush conn.; reinforced birch mahogany seat with heavy N. P. brass hinges; highest-grade vitreous syphon washdown closet bowl. This fixture is very durable and of striking design.

Complete, as shown and described.....\$29.90



L-241

**PLATE L-241 SERPENTINE VITREOUS CHINA WASH-
DOWN CLOSET OUTFIT**

Northern design highest-grade vitreous lowdown serpentine tank fitted with latest improved compound lever ball cock with thumb screw adjustments and sound deadening filler; new pattern Douglass syphon plunger valve and elevated pattern china tripping lever; N. P. brass supply to floor with adjustable iron pipe conns. 2 in. N. P. brass adjustable flush conn.; reinforced birch mahogany seat with heavy N. P. brass hinges. First-grade vitreous syphon washdown closet bowl. An exclusive Serpentine high-grade outfit.

Complete, as shown and described.....\$31.50



L-242

PLATE L-242 VITREOUS CHINA SYPHON JET CLOSET OUTFIT

Massive, original design serpentine tank fitted with our latest improved elevated compound lever ball cock with thumb screw adjustments and sound deadening filler; new noiseless pattern Douglass syphon plunger valve; elevated china tripping lever; N. P. brass supply to floor with adjustable iron pipe conns.; 2 in. N. P. brass adjustable flush conns.; reinforced birch mahogany seat with heavy N. P. brass hinges; first grade noiseless designed vitreous china syphon jet closet bowl. This combination is one of the newest and best manufactured and is noiseless in operation.

Complete, as shown and described.....\$37.70



L-243

Complete, as shown and described.....\$49.50

OUR SPECIALTY
WE SPECIALIZE IN PLUMBING
AND HEATING SUPPLIES
EXCLUSIVELY, THERE-
FORE WE ARE QUAL-
IFIED TO SERVE
YOU IN A PRAC-
TICAL WAY

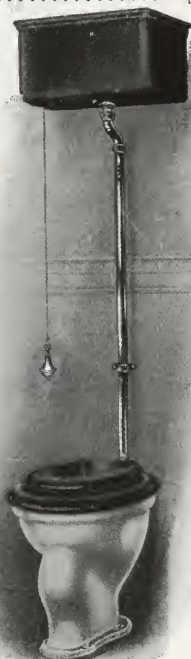
PLATE L-244 HIGH CLOSET
OUTFIT

With our piano finish oak copper lined closet tank. Top or bottom supply compound lever ball cock with thumb screw adjustments; galvanized goose neck flushing apparatus; N. P. brass flush pipe; reinforced oak closet seat; heavy N. P. brass hinges. First quality white vitreous syphon wash-down closet bowl. This is a very practical outfit.

Complete, as shown and de-
 scribed\$22.60

PLATE L-243 NEW TANK-
LESS FLUSHOMETER
SYPHON JET NOISE-
LESS CLOSET
OUTFIT

Beyond question, this is our latest and most practical designed fixture. A tankless syphon jet closet outfit. Operates with less water; is neater in appearance and less apt to get out of order than an outfit with a tank. When you slightly move the china lever handle, the closet syphons immediately. The bowl is highest-grade, latest designed vitreous china concealed syphon jet pattern; seat is reinforced birch mahogany with heavy N. P. brass hinges. Valve and connection are heavy brass nickel-plated and sure in operation. We would advise this outfit for any high-grade bathroom, where there is a good 1-in. supply to bathroom.





L-246

PLATE L-246 ENAMELED IN AND OUT IRON LOW WASH-DOWN SERPENTINE CLOSET OUTFIT

Highest grade porcelain enameled in and out closet tank fitted with latest improved elevated compound lever ball cock with thumb screw adjustments and sound deadening filler; new noiseless pattern Douglass syphon plunger valve; elevated china tripping lever; N. P. brass supply to floor with adjustable iron pipe connections. 2-inch N. P. brass adjustable flush connection, reinforced birch mahogany seat with heavy N. P. brass hinges; first-grade enameled in and out syphon washdown closet bowl. This is a very beautiful and durable outfit. Enameled all over, complete as shown.....\$48.70

HOW TO REMOVE STAINS FROM MARBLE

Make a composition powder from one part of pumice; two parts of soda and one part of finely powdered chalk. Put through fine sieve and mix with water until fairly stiff. Rub this over stained surface, then remove with soap and water. This will leave a bright and lasting clean finish.

HOW TO STOP THE FLOW OF WATER IN AN IRON PIPE WHERE THERE IS NO SHUT OFF VALVE

First, screw on any kind of a stop cock or valve. Be sure to leave same open. This will not scatter the flow of water. After you have caught thread well by hand, you can shut off the valve.



L-249

PLATE L-249. NON-FREEZING HOPPER FLUSHING APPARATUS

Improved yard or non-freezing flushing valve attachment. Opens by hand and is automatically closed by water pressure. No pit is required. This is one of the most modern and improved designed non-freezing valves on the market and can be repaired without digging or tearing up of floors by unscrewing top packing nut, removing and repairing plunger. Any hopper closet can be made frost proof with this improved apparatus. See L-250.

Complete as shown and described.....\$8.40

PRACTICAL KNOWLEDGE

For over 40 years, we have gathered a practical and scientific knowledge, supplying plumbing and heating goods to thousands of buyers who have done their own installing.

Through this broad experience, we are able to give you the biggest value for your money and a service that helps you in every step while doing your work.

PLATE L-250 ENAMELED IRON HOPPER CLOSET

New designed, perfectly casted Philadelphia porcelain enameled on inside iron closet bowl. Iron or lead supply can be connected to this bowl.

Price complete as shown and described\$3.40



L-250

**PLATE L-251 ENAMELED IRON
CLOSET BOWL WITH SEAT AND
AUTOMATIC FLUSHING
VALVE**

Highest-grade enameled on inside; rolled rim hopper closet outfit fitted with reinforced oak seat; controlled with sanitary automatic lifting device; new pattern automatic flushing attachment. This is a very durable, low priced, automatic closet outfit.

List price, complete as shown and described\$13.00



L-251

**OUR PRACTICAL AND SCIENTIFIC EXPERIENCE IS AS
VALUABLE TO YOU AS OUR HIGH-GRADE GOODS**

**PLATE L-252 ENAMELED IRON SANITARY FROST
PROOF AUTOMATIC CLOSET OUTFIT**



L-252½

This new, automatic, flushing, non-freezing closet outfit is sanitary, neat and practically fool-proof, together with being the best non-freezing fixture on the market. It is automatic in operation. The bowl has rolled rim all around and is heavy iron with white porcelain enamel on inside and over rim, and has new rim flushing device. The seat is reinforced oak, attached to bowl. Tank and flush pipes are steel, thoroughly galvanized in and out. All valves are brass. This fixture will give you lasting service.

How This Fixture Works

When seat is pressed down, the valve is automatically opened and the tank fills with water against air pressure. When seat is released, the supply valve closes automatically and the water that is compressed in the tank is forced down thru the closet and syphons and washes out perfectly.

^ This is a very serviceable, practical and sanitary outfit for country homes, city or factory use, and can be installed in any non-heated houses, sheds, barns, etc. Furnished complete with underground trap, waste and supply as shown and described. Water pipe threaded for iron pipe connections. Depth under ground about 3 ft.

List price, complete as shown and described.....\$30.00

GENUINE VITREOUS CHINA CLOSET BOWLS GUARANTEED TO SYPHON PROPERLY AND ARE STANDARD PATTERN

Plain Wash-Out Bowl

Plain Wash-Out Bowl Vented



L-254

With 1½-in. spud for high tank. Price each.....\$9.60



L-255

With 1½-in. spud and 2-in. vent spud for high tank. Price, each.....\$9.90

Syphon Wash-Down Bowl
Regular Outlet

Genuine Syphon Jet Bowl



L-256

With 1½-in. spud for high tank. Price each.....\$9.90
With 2-in. spud for low tank. Price each..... 9.90

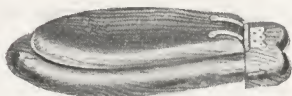


L-257

Noiseless type
With 1½-in. spud for high tank. Price each.....\$17.90
With 2-in. spud for low tank. Price each..... 17.90

We can furnish L-256 bowl with center outlet or extended basin outlet. For either add to list \$1.50.

NEW AND OLD DESIGNED REINFORCED CLOSET SEATS.
OUR SEATS WILL FIT ANY MAKE OF CLOSET BOWL
AND WILL NOT WARP OR SPLIT



L-258

Wood strip seat to attach to bowl.

Oak complete with bolts and
N. P. brass hinges. Price..\$3.20



L-259

Pedestal seat to attach to wall for
old style bowl.

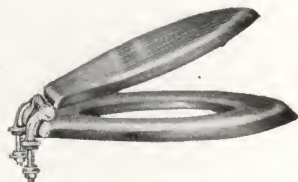
Oak complete with N. P. brass
hinges. Price each.....\$3.90



L-260

Seat to attach to bowl with
heavy N. P. brass offset post and
hinges.

Oak, complete. Price.....\$3.90
Mah., complete. Price..... 4.50



L-261

Five year guaranteed seat to
attach to bowl with heavy N. P.
offset bar hinges.

Oak, complete. Price.....\$4.40
Mah., complete. Price..... 4.60



L-262

Five year guaranteed new de-
signed sanitary seat to attach to
bowl with N. P. heavy offset bar
hinge.

Oak, complete. Price.....\$4.90
Mah., complete. Price..... 5.20



L-263

New hard, white enameled seat
with N. P. heavy offset post hinge.
Seat will not discolor.

Finished in pure ivory enamel
complete. Price each.....\$8.00

**LOW VITREOUS CHINA
COLONIAL TANK**



L-264

Fitted with elevated adjustable compound lever ball cock; Douglass modern flushing valve; adjustable 2-inch N. P. brass closet connection and N. P. brass supply to floor with adjustable iron pipe connections.

Colonial design. Price complete **\$19.00**
Extra large Serpentine design. Price each **21.00**

**HIGHLY FINISHED LOW
OAK TANK, COPPER
LINED**

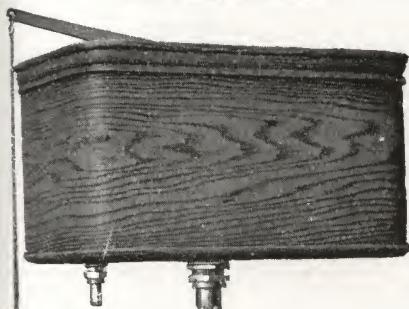


L-265

Fitted with elevated adjustable compound lever ball cock; Douglass modern flushing valve; adjustable 2-inch N. P. brass closet connection and N. P. brass supply to floor with adjustable iron pipe connections.

Price complete **\$13.00**

**HIGHLY FINISHED HIGH
OAK CLOSET TANK,
COPPER LINED**

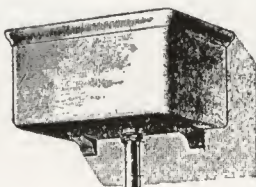


L-266

Fitted with new designed adjustable top or bottom supply ball cock; modern syphon flushing valve; N. P. chain and pull; N. P. union and tail piece.

Price complete **\$9.00**

**AUTOMATIC URINAL
TANK**



L-267

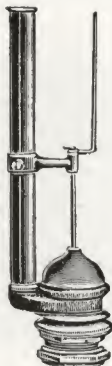
Long lasting, enameled in and out iron urinal tank; fitted with modern automatic trimmings with adjustable iron pipe connections.

Price complete **\$15.00**



L-268

Galv. goose neck; brass syphon valve with union and tail piece.



L-269

Douglass syphon valve complete with union and tail piece.



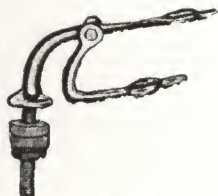
L-270

Compound level elevated ball cock for low tank, with filler tube union and tail piece.



L-271

Malleable rest and lever for high tank.

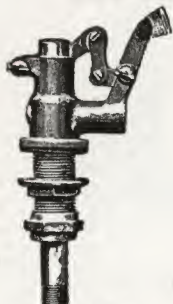


L-272

N. P. brass offset closet hinge.

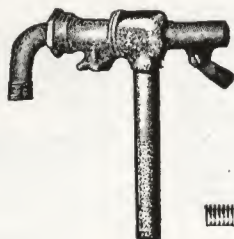
L-268.	1 1/4-in. goose neck only.	Price.....	\$1.40
L-268.	1 1/2-in. goose neck only.	Price.....	1.60
L-268.	1 1/4-in. valve seat.	Price.....	1.50
L-268.	1 1/2-in. valve seat.	Price.....	1.70
L-269.	2-in. complete, for low tank.	Price.....	2.90
L-270.	5/8 and 3/4-in. complete with ball and stem.	Price.....	3.60
L-271.	Price per pair.....		1.00
L-272.	Price per pair.....		1.40

REMEMBER WE GUARANTEE SATISFACTION



L-273

Compound lever bottom supply ball cock for high tanks with union and tail piece.



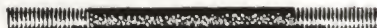
L-274

Top supply ball cock with filler tube, union and tail piece for high tanks.



L-275

Copper floats for ball cocks.



L-276

Stem for ball cock.

L-273.	1/2-in., 5/8 in. and 3/4-in.	Price.....	\$2.10
L-274.	1/2-in. and 3/4-in.	Price.....	2.10
L-275.	Copper float.	Price.....	.50
L-276.	Stem.	Price.....	.20



L-278

BATH TUB STOOL

L-278. Beautiful white bath stool with ivory white finish and non-slipping rubber tips on legs. Diameter, $13\frac{1}{4}$ in.; height, 16 in. Price complete as shown and described.....\$8.00



L-279

L-297. Heavy brass N. P. shower head for standard $\frac{1}{2}$ in. iron pipe connection.

Size $6\frac{1}{2}$ in., price.....\$3.90



L-280

L-280. Heavy N. P. cast brass shower head with extended shower openings, especially adapted to induce circulation. Standard $\frac{1}{2}$ in. iron pipe connection.

Size 9 in., price.....\$9.80

HOW TO REPAINT ENAMEL THAT HAS BEEN SLIGHTLY CHIPPED

First, wash out defective part very carefully with hot water and soap. Then thoroughly clean surface with fine sand paper, cleaning out all rust, soap, grit, etc. Apply about three coats of good white lead; then two coats of any good paint enamel. Be sure that each coat has sufficient time to dry.

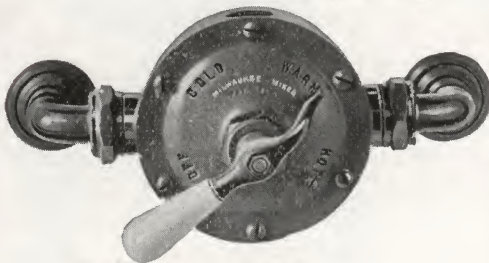


L-281 Complete

PLATE L-281 AUTOMATIC SHOWER AND SHAMPOO

L-281. Improved combination shower and shampoo with syringe attachment. Heavy N. P. shower head with controlling valve; faucet connection is fitted with N. P. automatic relief valve and 5 feet of the highest quality of pure rubber tubing. Operation of same is as follows: When controlling valve is shut off, the automatic valve at faucet attachment opens and allows the water to run into tub. When the controlling valve is open, the relief valve at bottom of faucet connection automatically closes. The water then passes through the spray head only. Syringe attachments can be fastened to the controlling valve, being made of special rubber tubing with hard rubber tubes. A very useful and efficient high-grade bath fixture with many new exclusive features that distinguishes it from any on the market. Complete as shown and described. \$13.00

PLATE L-282 NON-SCALDING COMBINATION SHOWER CONTROL



L-282

Special Hardin-Lavin new designed improved type; heavy brass N. P. non-scalding mixing valve with combination unions, china handle, indexed. Unquestionably the most modern and improved type of mixing valve. It is a non-scalding valve and no possible injury can result from its use. All parts are of cast brass, heavily nickel plate. Complete as shown and described. \$31.50

HOW TO TEST HARD OR SOFT WATER

Mix with a half cup of alcohol about 1 cubic inch of good soap. Pour a few drops of this solution in the water to be tested and if it turns white it is hard water, and if it does not it is soft.

HOW TO BEND LEAD WASTE PIPE WITHOUT KINKING

See figure No. 742 or fill pipe with sand, closing both ends. Heat slightly over a furnace or fire of any kind and you can easily make an even bend. Then remove the sand or bending spring.

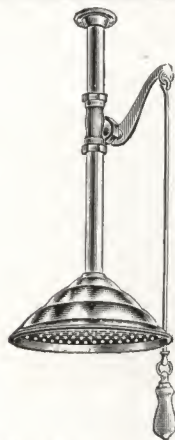


PLATE L-285 NICKEL-PLATED CEILING SHOWER

L-285. Highest-grade heavy brass N. P. ceiling shower with self closing valve. N. P. chain with cast brass pull. This shower is the most rigid construction and can be used in a very small space. Diameter of shower head, 5 in. From ceiling to bottom of shower, 20 in.

Complete as shown and described\$17.00

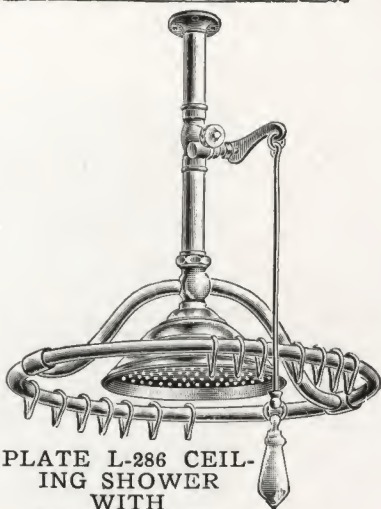


PLATE L-286 CEILING SHOWER WITH CURTAIN RING

L-286. Newest designed improved type ceiling shower with self closing valve with link rod Pyrilan pull with supply. Complete with curtain ring and snap hooks. A very substantial and necessary item for your bathroom. Size of shower head, 6½ in. Diameter of ring, 24 in. From ceiling to bottom of shower, 20 in.

Complete as shown and described\$30.50

HOW TO DRILL GLASS

First, lay the glass on a perfectly smooth, cloth covered surface. Then take a good, sharp drill and use as a lubricant ⅓ sweet oil and ⅔ turpentine. Do not apply too much pressure. It is advisable to drill half way through from each side.

HOW TO BEND BRASS TUBES WITHOUT KINKING

Tubes can be bent into any desired shape without kinking, if the tube is previously filled with fine sand. After the bends are made, the sand can be easily poured out again.

BAD ODOR IN BATHROOM

If there is a bad odor in bathroom, it is an indication that the closet bowl is loose from the floor. Take up bowl and reset in soft putty, rescrewing tight to floor or bend.

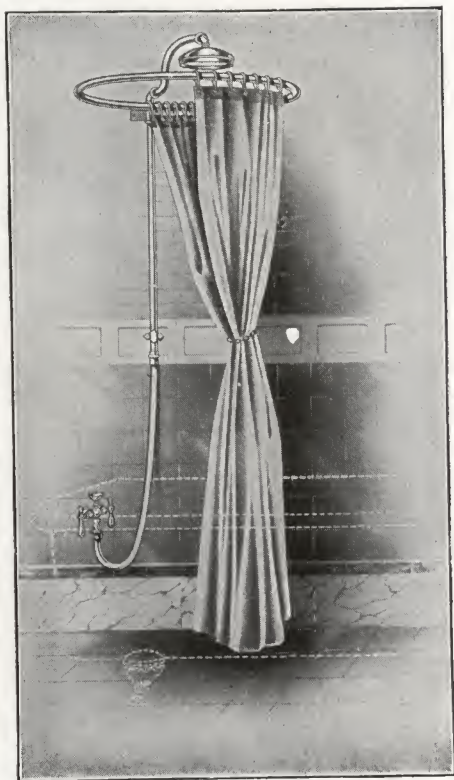


PLATE L-288 PORTABLE SHOWER BATH

L-288. Highest quality, nickel-plated heavy brass portable shower bath with well supported curtain ring, 24 in. in diameter; patented detachable curtain hooks. N. P. heavy brass shower head; N. P. brass supply pipe with best grade pure gum detachable rubber hose and "Never-slip" rubber bulb connection to attach to bath cock; heavy white duck curtain. This is a very beautiful and inexpensive, as well as a durable and practical shower bath.

Price complete as shown and described.....\$23.00

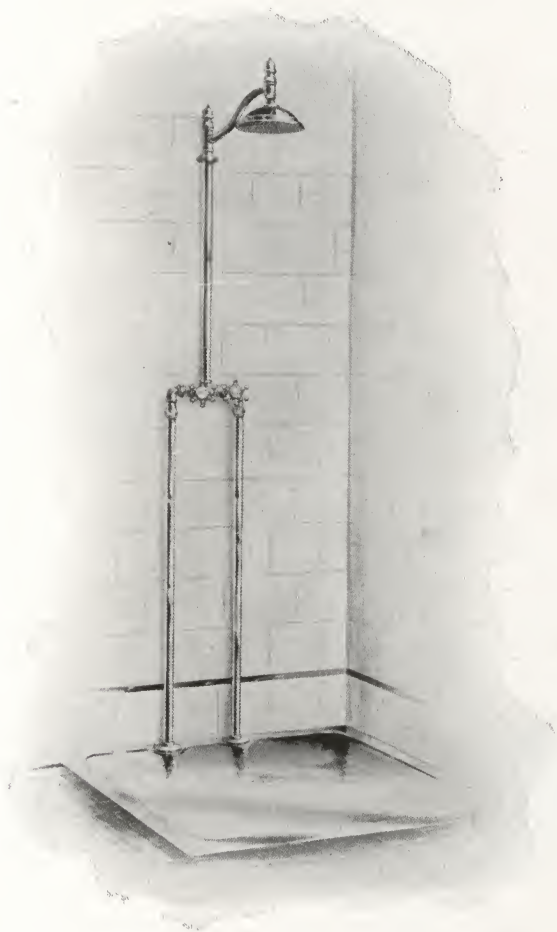


PLATE L-289 SHOWER BATH

L-289. High-grade N. P. heavy brass shower bath with individual N. P. brass hot and cold supply pipes, properly connected with N. P. brass mixing column and shower head. Hot and cold water controlled by individual china indexed compression valves, marked "hot" and "cold." Supply pipes and mixing column $\frac{1}{2}$ in. in diameter. No marble included. This shower is very attractive and can be used in connection with shower receptor, bath tub or marble floor.

Complete as shown and described.....\$29.50

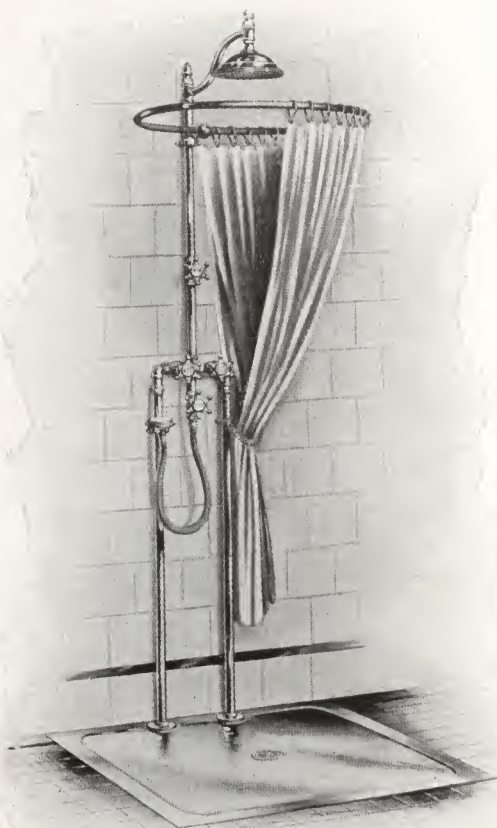
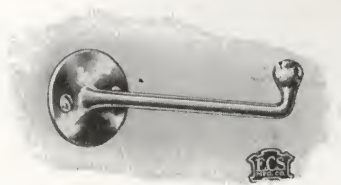


PLATE L-290 COMBINATION SHOWER AND SHAMPOO

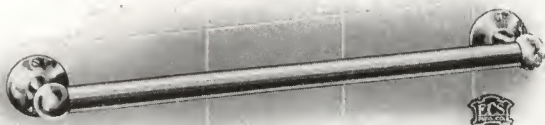
L-290. New design heavy N. P. brass combination shower and shampoo with N. P. curtain ring hooks and white duck curtain with N. P. chain curtain holder. Heavy cast brass N. P. shower head. Latest pattern N. P. china indexed compression supply control marked "hot" and "cold." Heavy N. P. brass supplies to floor with $\frac{3}{4}$ in. iron pipe connection. China indexed compression control to shampoo attachments. N. P. shampoo head with china indexed compression control. Size of shower head, $6\frac{1}{2}$ in. Diameter of ring, 24 in. From ceiling to bottom of shower, 20 in. Center to center of supplies, 12 in.

Complete as shown and described.....\$76.00



L-293
BATH HOOK

Lightest quality heavy cast brass N. P. bath hook with $1\frac{3}{4}$ in. flange Length, 5 in.
Price, each\$0.76



L-295
TOWEL BAR

Heavy N. P. 1 in. towel bar with $2\frac{1}{2}$ in. N. P. flanges to fasten to wall.
Length, 18 in. Price.....\$3.50
Length, 24 in. Price..... 3.90
Length, 30 in. Price..... 4.30

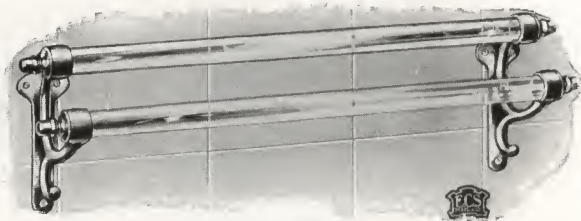


L-296
GLASS TOWEL RACK WITH CUT GLASS BALL ENDS

Heavy cast brass N. P. posts with threaded spud spun to cut glass ball ends. 1 in. crystal glass towel bar. Diameter of flanges, $2\frac{1}{2}$ in.
Length, 18 in. Price.....\$10.50
Length, 24 in. Price..... 11.80
Length, 30 in. Price..... 13.60

IN PUTTING UP SOIL PIPE STACK

In putting up soil pipe stack be sure to support same well in several places as nine-tenths of the leaks in waste work under bathroom floors are caused by settling of the soil stack.

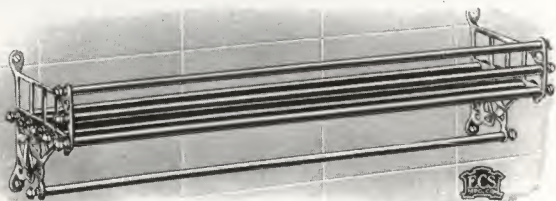


L-297

DOUBLE GLASS TOWEL BAR

High-grade, heavy double towel bar with 1-inch glass towel bar with N. P. brass ends.

Length, 18 inches.	Price.....	\$13.00
Length, 24 inches.	Price.....	13.80
Length, 30 inches.	Price.....	14.70



L-298

TOWEL SHELF

New design, heavy, solid brass N. P. towel shelf with $\frac{3}{8}$ -inch N. P. brass towel bar. A very substantial and serviceable towel shelf.

Width, $8\frac{1}{4}$ inches.	
Length, 26 inches.	Price.....\$15.50



L-299

GLASS SHELF

Highest quality, heavy glass shelf with N. P. brass reinforced brackets.

Length, 18 inches; width, 5 inches; thickness, $\frac{3}{8}$ inch.	Price.....	\$2.70
Length, 24 inches; width, 5 inches; thickness, $\frac{3}{8}$ inch.	Price.....	3.20
Length, 30 inches; width, 5 inches; thickness, $\frac{3}{8}$ inch.	Price.....	3.90

When You Buy From Us, You Get High Class Goods, Absolute Satisfaction and Unlimited Service.



L-300

GLASS SHELF AND TOWEL BAR

L-300. Heavy glass shelf with glass towel bar, 1 in. in diameter, with heavy brass N. P. wall support.

Length, 24 in.; width, 5 in.; thickness, $\frac{1}{2}$ in.	Price.....	\$13.60
Length, 27 in.; width, 5 in.; thickness, $\frac{1}{2}$ in.	Price.....	15.00
Length, 30 in.; width, 5 in.; thickness, $\frac{1}{2}$ in.	Price.....	18.00



L-301

COMBINATION GLASS SHELF, TUMBLER HOLDER AND TOWEL BAR

L-301. Highest-grade, combination glass shelf, tumbler holder and towel bar. China tooth brush vase glass tumbler; heavy N. P. brass towel bar, $\frac{5}{8}$ in. in diameter.

Length, 24 in.; width, 5 in.; thickness, $\frac{3}{8}$ in.....	\$15.50
Length, 30 in.; width, 5 in.; thickness, $\frac{3}{8}$ in.....	16.60

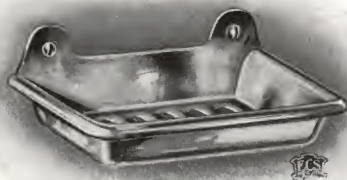


L-302

BATH SOAP HOLDER

L-302. Heavy brass N. P. strap perforated bottom bath soap holder. Length, 5 in.; width, 3½ in.; will fit 3 in. roll rim.

Price\$2.50



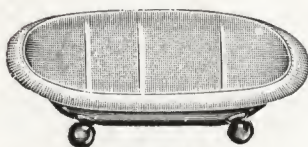
L-303

N. P. SOAP DISH

L-303. Highest-grade stamped brass, heavily N. P. soap dish. Length, 5 in.; width, 3 in.

Price\$0.80

Get Our Estimate on Complete Hot Air, Steam or Hot Water Heating Plant

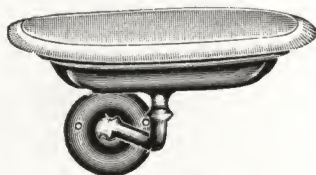


L-304

WHITE CHINA SOAP DISH

L-304. Highly polished N. P. finish soap dish with opal tray. Length, 5½ in.; width, 4 in.

Price\$1.70



L-305

WHITE CHINA SOAP DISH

L-305. Highest quality china soap dish with N. P. soap dish holder. Length, 5½ in.; width, 4 in.

Price\$1.70

Remember We Absolutely Guarantee Satisfaction.



L-306

TOOTH BRUSH HOLDER WITH TOWEL HOOK

L-306. Latest pattern N. P. heavy solid brass tooth brush holder and towel hook with cast brass arm. Handles of brushes rest on lower recessed disc.

Price\$1.50

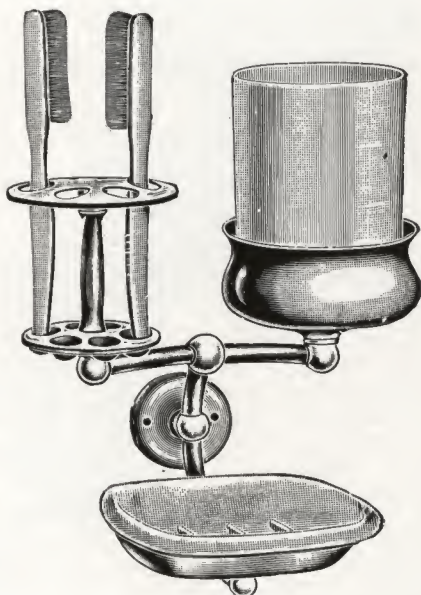
On Small Orders Add Parcel Postage

TOOTH BRUSH AND TUMBLER HOLDER AND SOAP DISH

L-307. Latest pattern N. P. brass tooth brush spreader with latest designed tumbler holder; solid cast brass arms to fasten to wall with flange; large white china soap dish with N. P. brass supports.

Price\$3.80

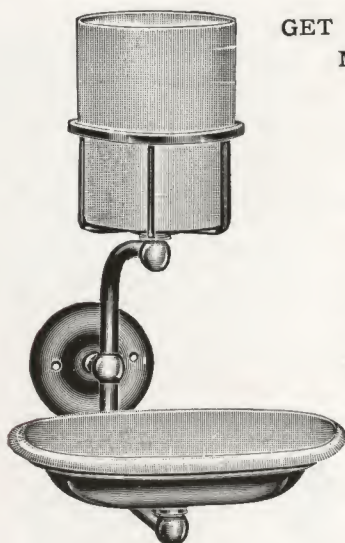
ANY HANDY MAN
can do the installing.
HARDIN EASY WAY.



L-307

A SUBSTITUTE FOR OAKUM

If you have not sufficient oakum to complete your stack, newspapers can be used instead by packing the hubs well about three-fourths full.



L-308

GET OUR ADVICE ON FIXTURES
MOST SUITED FOR YOUR
REQUIREMENTS

COMBINATION TUMBLER, HOLDER AND SOAP DISH

L-308. Heavy N. P. brass tumbler holder and soap dish with large white china soap tray. Heavy cast brass support with N. P. flange to fasten to wall.

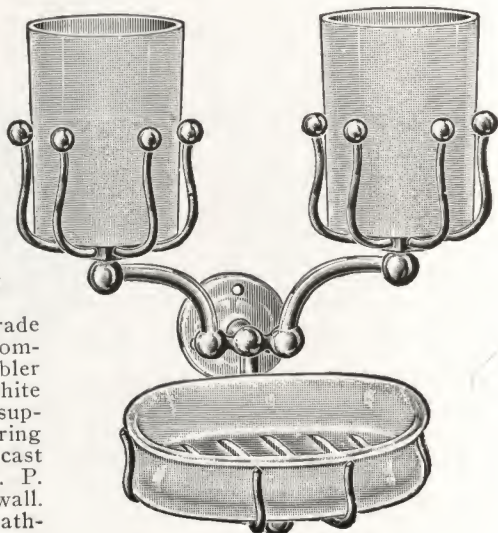
Price\$2.50

WE DO NOT CARRY JOB LOTS
—OUR GOODS ARE ALL
STANDARD

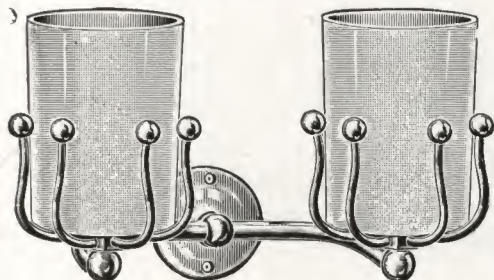
COMBINATION

L-309. Highest grade heavy brass N. P. combination spring tumbler holder with large white china soap tray, supported on N. P. spring holder. Heavy cast brass arms with N. P. flange to fasten to wall. This is a very new bathroom fixture.

Price\$5.20



L-309



L-310

COMBINATION

L-310. Highest-grade heavy brass N. P. spring brass tumbler holder with wide brass flange to fasten to wall. This is a very substantial high-grade combination for a modern, up-to-date bathroom.

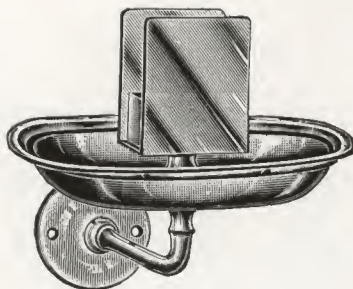
Price\$2.30

PRACTICAL SERVICE IS AS VALUABLE TO THE HANDY
MAN AS ADJUSTABLE CONNECTIONS

SAFETY MATCH HOLDER

L-311. New Colonial pattern heavy brass N. P. combination safety match holder and ash tray with cast brass arm to fasten to wall.

Price\$3.50



L-311

WE CAN GIVE YOU BIGGER VALUE FOR YOUR MONEY
AND MORE PRACTICAL SERVICE THAN FIRMS
HANDLING THESE GOODS AS SIDE LINES

HOW TO MARK GAUGE GLASSES ON BOILER AND
EXPANSION TANKS NEATLY

Take a rubber band and put on glass, which may be slid up or down.

TO PREVENT FILLING OF TEETH IN FILES

In filing, some metals will fill the teeth rapidly. For this rub white chalk on file, which will prevent its filling considerably.

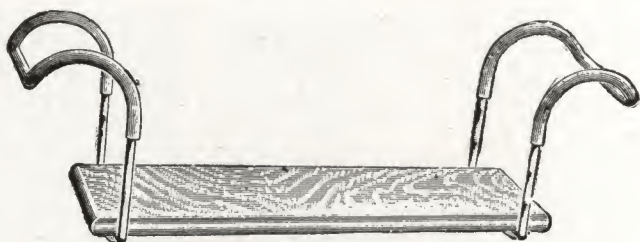


PLATE L-313. BATH TUB SEAT

Highest-grade adjustable oak or ivory white bath tub seat with adjustments to fit any rolled rim tub; with rubber protectors on side arms.

Oak finish. Price.....\$2.90
Ivory white finish. Price..... 3.70

Good Plumbing Will Outlast Your Building



PLATE L-314. NEW DESIGN SANITARY BOTTLE RACK

N. P. brass frame with eight perfectly formed four ounce medicine bottles, labeled. This makes a very beautiful bathroom accessory.

Price, complete as shown and described.....\$5.90

IN LAYING SEWER TILE

In laying sewer tile cement joints well. Be sure to clean out cement on inside of joint with swab as you proceed with job. Never use ells or $\frac{1}{4}$ bends under ground. Use $\frac{1}{8}$ bends and 45's.

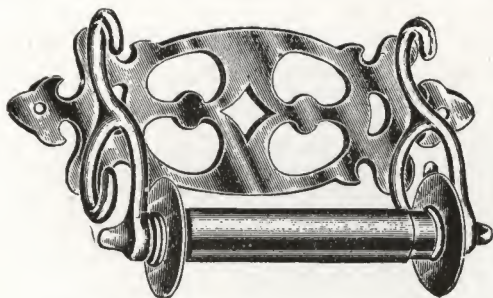


PLATE L-315. PAPER HOLDER

Latest designed heavy brass N. P. paper holder with new tension attachment.

Price\$4.30



PLATE L-316. ADJUSTABLE BATHROOM MIRROR

Heavy N. P. adjustable frame, which can be adjusted up or down and one way or the other; with 8-inch beveled round mirror.

Price complete as shown and described.....\$6.90

HOW TO USE A SOLDERING IRON OR COPPER PROPERLY

First, it is necessary to have the end or tapering point of copper entirely covered with solder. To do this, file four sides of point smoothly. Then heat to a fairly hot heat. Refile tarnish off one side quickly. Apply sal ammoniac, killed muriatic acid, rosin or plumber's candle. (Any one will do.) Rub on bar of solder quickly, which will easily stick. The copper should be just hot enough to melt solder and should be applied very quickly before copper tarnishes. Just tin one side of point at a time. Do not forget that it is impossible to use soldering copper unless it is well tinned.

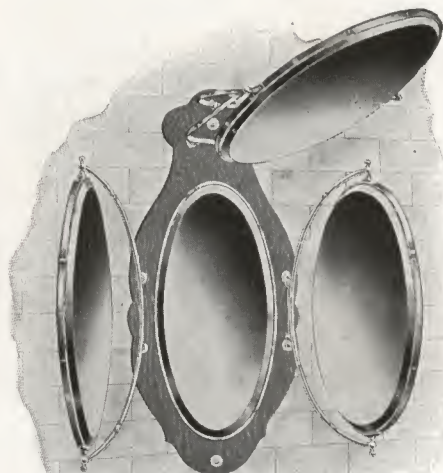


PLATE L-318. ADJUSTABLE QUADRUPLE MIRROR

This is our newest designed mirror outfit. All metal is heavy N. P. brass. The hinges are patented friction pattern that mirrors will stand stationary in any position placed; the back board is finished in mahogany, oak or ivory white. Mirrors are oval, 12x22 inches. This is a very new and beautiful mirror outfit, appropriate for any modern home.

Price\$52.50

) Bear in mind that our prices throughout on all fixtures are absolutely complete in every respect, with adjustable supplies, adjustable traps, faucets, etc.; fitted throughout with our patented Hardin-Lavin easy adjustable iron pipe connections.

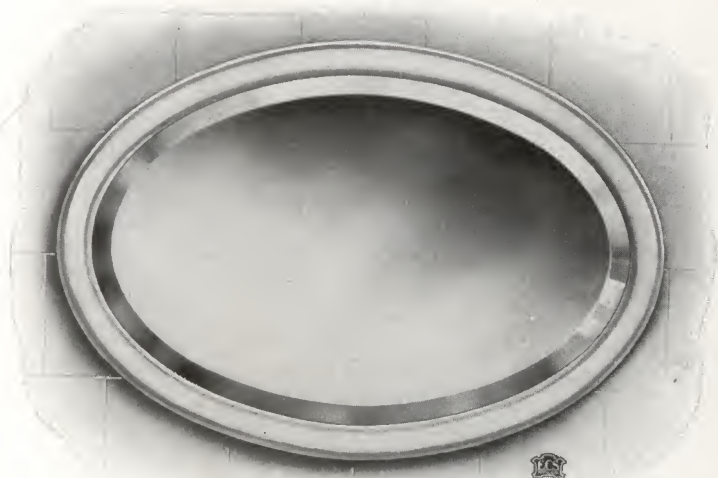


PLATE L-319. BEVELED OVAL MIRROR

Highest-grade, heavy French plate, 1-inch beveled mirror; reinforced telescoped back, making it absolutely dust tight, and 1-inch white enameled hard wood frame. Mirror held in place with our non-loosening device. An appropriate bathroom accessory.

Size, 14x20.	Price.....	\$ 9.80
Size, 16x20.	Price.....	10.80
Size, 18x24.	Price.....	13.10

HOW TO TAKE A KINK OUT OF A LEAD PIPE

Solder on a little strap of sheet or lead of any kind onto the part that is kinked. Then pull out the kink and remove strip of lead.

HOW TO CUT STOVE PIPE

Use an ordinary can opener if you have not a large pair of shears.

HOW TO HEAT TIPS OF TOOLS FOR HARDENING OR TEMPERING

Take tool of any kind and stick same through a raw potato, leaving only the portion to be heated exposed. This will protect temper in balance of tool.



PLATE L-320. BEVELED MIRROR

Finest quality, heavy French plate, 1 inch beveled mirror with 1 inch white enameled hard wood frame with rounded corners and special heavy reinforced back, making it absolutely secure and dust tight. A very necessary accessory for hotel lobbies, etc.

Size, 12x18.	Price	\$10.00
Size, 16x20.	Price	10.80
Size, 18x24.	Price	14.40

HOW TO REPAIR HIGH CLOSET TANK

When a closet tank runs water continually there are two causes: The ball cock may leak and require a new washer on same or goose neck or syphon valve may leak and require a new syphon gasket. In the first place, hold up copper float, which will shut off ball cock, and if it still leaks you know that it requires a new washer. To replace this, take off screws that hold in plunger, taking out plunger, and you can easily replace new washer, or if ball cock does not leak put on a new syphon gasket on syphon valve or goose neck and you will find that your job is finished.



PLATE L-321. BEVELED ROUND MIRROR

Finest quality heavy French plate round mirror with $\frac{1}{8}$ -inch wide N. P. brass frame; with new special heavy reinforced metal backing and N. P. lugs for fastening to wall. An especially high-grade mirror for modern, up-to-date bathrooms.

Size, 12 inches. Price.....\$6.00
Size, 18 inches. Price.....9.50

HOW TO REPAIR LOW CLOSET TANKS

First, hold up copper float on ball cock and if ball cock leaks remove set screw, holding plunger, and replace new washer on bottom of plunger. If your closet tank still leaks replace new Douglas rubber plunger ball. Be sure to get the right size, which is usually $2\frac{1}{2}$ -inch.

HOW TO MAKE A GOOD SOLDERING PASTE FOR ALL PURPOSES.

Take one part by weight or killed muriatic acid and 16 parts of vaseline; thoroughly mix together. This is everlasting and should be kept free from dirt.



PLATE L-323. MEDICINE CABINET

New designed, modern, sanitary enameled medicine cabinet with three heavy removable glass shelves. Mirror is of the finest quality heavy French plate with beveled edges, securely fastened. Finished in white enamel, hand polished, complete with N. P. lock and key and attachments for fastening to wall. An especially high-grade sanitary cabinet for a modern bathroom. Size, 6x18x24 inches; mirror, 12x18 inches. Price.....\$27.00

HOW TO BREAK IN A NEW WIPING CLOTH SO THAT SOLDER WILL NOT STICK TO SAME

First, take cloth and saturate with hot tallow or candle; then heat slightly over a furnace or torch. Cover all ends and sides with library paste, rubbing into cloth on brick wall several times until the cloth is thoroughly broken in and solder will not stick.

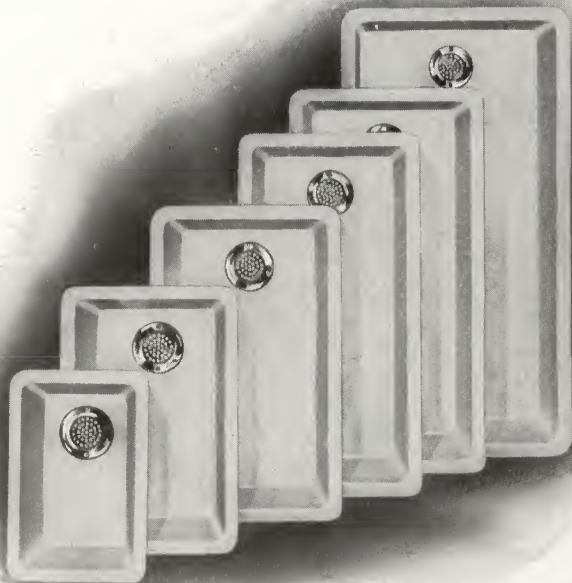


PLATE L-324. FLAT RIM SINKS

Highest grade porcelain enameled. All perfectly cast, enameled over rim; new improved sink strainer, requiring no bolts through sink.

PRICE COMPLETE

14x20 in.....\$5.30	18x30 in.....\$5.90	20x30 in.....\$6.70
18x24 in.....5.90	18x36 in.....8.00	20x36 in.....9.00

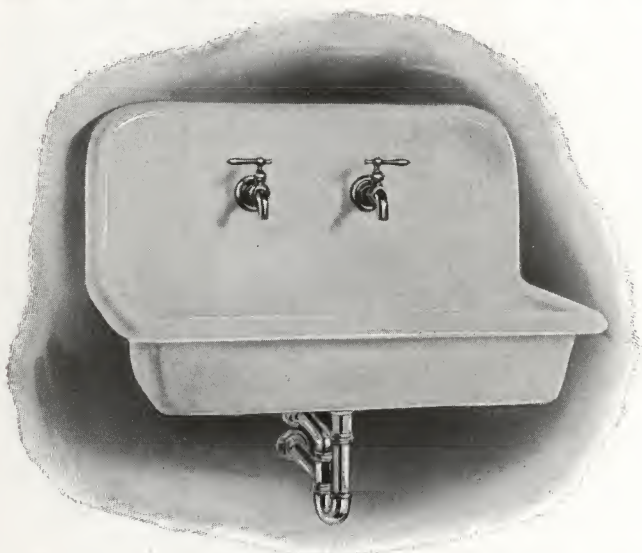
State whether lead or iron pipe connection is wanted. Same prices.



PLATE L-325. ROLLED RIM SINK BACKS

Highest grade porcelain enameled, latest designed, rolled rim sink backs with patd. deep non-leaking sink apron; 12 in. high; 2¼ in. deep.

24 in. long.....\$4.80	30 in. long.....\$5.70	36 in. long.....\$7.00
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L-326 ONE-PIECE ROLLED RIM SINK AND BACK

Highest grade porcelain enameled one-piece rolled rim sink, with deep rolled rim back, all cast in one piece; supported on heavy concealed wall hanger so sink can be set at any height. Two $\frac{1}{2}$ -in. N. P. flange faucets. Improved swivel galv. I. trap to wall with sanitary easy removable body for cleaning, with pat'd adj. swivel joints on inlet and outlet, that trap can be moved up or down or set at any angle (easy installing features). Has new removable N. P. brass sink strainer, requiring no bolts.

Furnished complete with Hardin-Lavin iron pipe connections.

18 x 24 in., list price complete.....	\$26.00
18 x 30 in., list price complete.....	29.00
20 x 30 in., list price complete.....	33.00

HANDY MAN METHOD HOW TO PROPERLY TIN SOLDERING COPPER WITH SAL-AMMONIAC

First file off the four sides of the point of your soldering copper, then heat the copper up fairly hot; next file off the tarnish which was caused by the heating, then apply the sal-ammoniac to the four sides; then rub the stick of solder over the four sides quickly. You will find that the entire surface will be properly tinned. Understand that copper should not be heated too much, just enough to melt the solder

**HARDIN-LAVIN FIXTURES COST A LITTLE MORE THAN
THE CHEAPEST IMITATION.**

**THEY ARE WORTH MANY TIMES THIS EXTRA COST IN
APPEARANCE AND DURABILITY.**



PLATE L-327. ONE-PIECE ROLLED RIM SHORT BACK SINK AND DETACHABLE DRAINBOARD OUTFIT

Highest grade porcelain enameled one-piece rolled rim sink with deep rolled rim back, all cast in one piece; supported on heavy concealed wall hanger so sink can be set at any height. Improved designed porcelain enameled elevated rolled rim reversible drainboard on heavy concealed wall hanger. Two $\frac{1}{2}$ -inch N. P. flange faucets. Improved swivel galv. I. trap to wall with sanitary easy removable body for cleaning, and pat'd adj. swivel joints on inlet and outlet that trap can be moved up or down or set at any angle (easy installing features). Has new removable N. P. brass sink strainer, requiring no bolts.

Furnished complete with Hardin-Lavin iron pipe connections.
 18 x 24 in., length over all 40 in., list price complete.....\$40.00
 18 x 30 in., length over all 52 in., list price complete..... 42.50
 20 x 30 in., length over all 52 $\frac{1}{2}$ in., list price complete..... 45.00

HOW TO REPAIR SOIL PIPE, STACKS, ETC.

If you should crack your soil pipe or soil fittings and wish to repair same without removing the cracked parts, heat around the crack slightly, next apply with an ordinary paint brush roof tar which has been properly heated (or a roof cement not heated), be sure that either is thoroughly worked into and around the broken parts. If sufficient pains are taken, this will make a good substantial lasting job.

HOW TO PAINT A SOIL PIPE

If soil pipe stack is exposed in any room that you wish to decorate, first give the soil pipe about three coats of shellac, then you can paint it or decorate it any color and the black tar will not show through.

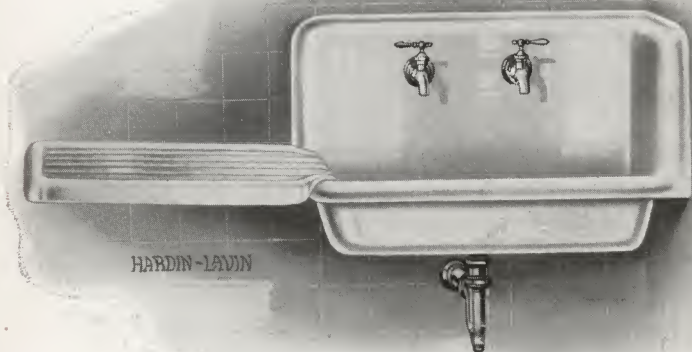


PLATE L-328. ONE-PIECE CORNER ROLL RIM SINK, BACK END AND DETACHABLE DRAINBOARD

Highest grade porcelain enameled one-piece roll rim sink with deep roll rim back and end, all cast in one piece; supported on heavy concealed wall hangers so sink can be set at any height. Latest designed porcelain enameled elevated roll rim reversible drainboard, on heavy concealed wall hangers. Two $\frac{1}{2}$ -inch N. P. brass flange faucets. Improved galv. I. swivel trap to wall with sanitary easy removable body for cleaning, and pat'd adj. swivel joints on inlet and outlet that trap can be moved up or down or set at any angle (easy installing features). Has improved removable N. P. brass strainer requiring no bolts.

Furnished complete with Hardin-Lavin iron pipe connections.

Size of sink 20 x 30 in., length over all 52 in.

State whether right or left hand corner is wanted.

List price, complete.....\$48.00

HOW TO BEND COPPER PIPE

Plug ends of the pipe, then fill it with melted rosin. After the bend is made, remove the corks and heat up slightly, and the rosin will run out. With this method you can make a perfect, uniform bend.

HOW TO BEND BRASS PIPE

Plug both ends, then fill with sand; next thoroughly heat over a slow fire or with a torch the part that you wish to bend, then you can easily make the bend desired.



PLATE L-329. ONE-PIECE ROLLED RIM SINK, BACK AND DRAINBOARD

Highest grade porcelain enameled oval rolled rim sink, with deep rolled rim back, and depressed draining surface, pitched drain-board with elevated rim throughout, all cast in one piece; supported on concealed wall hangers that sink can be set at any height. Two $\frac{1}{2}$ -inch N. P. brass flange faucets. Improved Galv. I. swivel trap to wall with sanitary easy removable body for cleaning, and pat'd adj. swivel joints on inlet and outlet that trap can be moved up or down or set at any angle (easy installing features). Has improved removable N. P. brass sink strainer requiring no bolts.

Notice.—Our well-formed massive rolled rim throughout.

Furnished complete with Hardin-Lavin iron pipe connections.

State whether right or left hand drainboard is wanted.

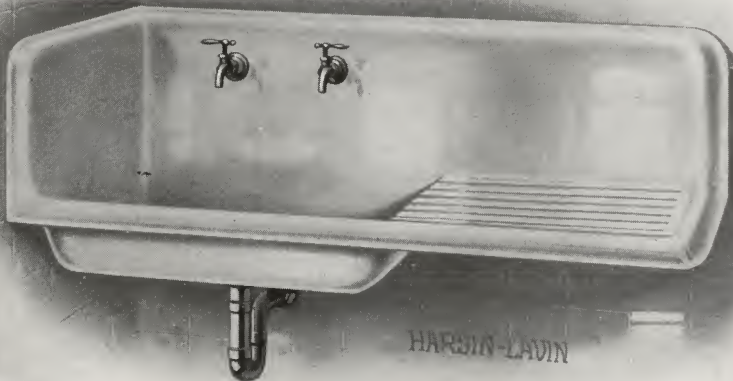
Size of sink 20 x 26 $\frac{1}{2}$ in., length 44 $\frac{1}{2}$ in., list price complete.. \$54.00

Size of sink 20 x 26 $\frac{1}{2}$ in., length 48 $\frac{1}{2}$ in., list price complete.. 56.00

Size of sink 20 x 30 $\frac{1}{2}$ in., length 52 $\frac{1}{2}$ in., list price complete.. 59.00

HANDY HINTS ON INSTALLING WATER PIPING

Use the very best galvanized pipe obtainable. Cut the threads about two threads through the die; use plenty of the best grade of lard oil on the die; be sure to ream out all ends of the pipe that you thread before screwing together; wipe off oil from thread with a soft rag or cotton waste, then apply paint on the threads in fitting, also on the pipe, and when same is screwed up tight, apply additional paint around the exposed thread on the pipe, this will eliminate rusting. If there should be any galvanized metal scraped off the pipe by the wrench, cover this up with paint. For a Pneumatic Water System use $\frac{1}{4}$ -inch pipe from well to tank; $\frac{3}{4}$ -inch pipe for risers, and $\frac{1}{2}$ -inch pipe for leads to fixtures.



**PLATE L-330. ONE-PIECE ROLLED RIM CORNER SINK, BACK
END AND DRAINBOARD**

Highest grade porcelain enameled oval rolled rim sink, with deep rolled rim back and end, and depressed draining surface, pitched drainboard with elevated rim throughout, all cast in one piece; supported on concealed wall hangers that sink can be set at any height. Two $\frac{1}{2}$ -inch N. P. brass flange faucets. Improved Galv. I. swivel trap to wall with sanitary easy removable body for cleaning, and Pat'd adj. swivel joints on inlet and outlet that trap can be moved up or down or set at any angle (easy installing features). Has improved removable N. P. brass sink strainer requiring no bolts.

Notice.—Our well-formed massive rolled rim throughout.

Furnished complete with Hardin-Lavin iron pipe connections. State whether right or left hand drainboard is wanted.

Size of sink 20 x 26 $\frac{1}{2}$ in., length 44 $\frac{1}{2}$ in., list price complete.....	\$58.00
Size of sink 20 x 26 $\frac{1}{2}$ in., length 48 $\frac{1}{2}$ in., list price complete.....	60.00
Size of sink 20 x 30 $\frac{1}{2}$ in., length 52 $\frac{1}{2}$ in., list price complete.....	63.00

HOW TO LOCATE TROUBLE WITH YOUR HEATING PLANT

In a great many cases where your Hot Water Heating plant does not furnish sufficient heat, the trouble is with the draft. First, if the chimney leaks air, or is not sufficiently high, this will cause it, or possibly the boiler is not properly cemented between the sections, or at the floor, or possibly the base may not be sufficiently tight, or there may be a leak in the smoke pipe between the boiler and the chimney. To find any leaks, take a lighted candle and go around the outside of the boiler where the sections join together and around the base, or where the smoke pipe enters the chimney. If it draws in the flame of the candle, it is an indication that it must be recemented, as the very smallest air leak will check the heating capacity of the boiler.



PLATE L-331. ONE-PIECE DROP APRON SINK OUTFIT

Highest-grade porcelain enameled sink combination with oval rolled deep drop apron, perfectly rolled rim back and depressed pitched drainboard, all cast in one piece; supported on heavy concealed wall hanger and two highest-grade porcelain enameled adjustable legs that sink can be set at any height; two $\frac{1}{2}$ -inch N. P. heavy brass flanged faucets; $1\frac{1}{2}$ -inch heavy pattern N. P. brass adjustable trap to floor or wall with removable body. Size of sink, 20x30 inches; height of back, $12\frac{3}{4}$ inches; size of drainboard, 20x24 inches; length over all, $52\frac{3}{4}$ inches; fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections and new designed strainer, requiring no bolts to go through sink. This is our latest designed high-grade sink. Notice our new depressed drainboard, sloping towards sink, and the perfectly formed extension legs. A very beautiful and sanitary fixture. State whether right or left hand drainboard is wanted. Price complete as shown and described.....\$64.00

HOW TO DRILL EARTHENWARE OF ANY KIND

Use a new, sharp drill and submerge down with a mixture of camphor and turpentine.



PLATE L-332. ONE-PIECE DROP APRON CORNER SINK OUTFIT

Highest-grade porcelain enameled sink combination with oval rolled deep drop apron; perfectly rolled rim back and end; depressed pitched drain board, all cast in one piece; supported on heavy concealed wall hangers; highest-grade porcelain enameled adjustable leg that sink can be set at any height; two $\frac{1}{2}$ -inch N. P. heavy brass flanged faucets; $1\frac{1}{2}$ -inch heavy pattern N. P. adjustable trap to floor or wall with removable body. Size of sink 20x30 inches; height of back, $12\frac{3}{4}$ inches; size of drainboard, 20x24 inches; length over all, $52\frac{3}{4}$ inches; fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections and new improved strainer, requiring no bolts to go through sink. This is our newest designed high-grade corner sink. Notice our new depressed drainboard, sloping towards sink, and the perfectly formed enameled extension legs. It is the most beautiful corner sink manufactured. State whether right or left hand drainboard is wanted. We furnish only one leg with this sink, as the opposite corner is supported on heavy side bracket.

Price complete as shown and described.....\$68.00

TO PREVENT FILLING OF TEETH IN FILES

In filing, some metals will fill the teeth rapidly. For this rub white chalk on file, which will prevent its filling considerably.



PLATE L-333. MASSIVE ONE-PIECE DOUBLE DRAIN-BOARD DROP APRON SINK OUTFIT.

Highest-grade porcelain enameled sink combination with oval rolled deep drop apron and oval corners; perfectly rolled rim deep back with two depressed pitched drainboards; all cast in one piece; supported on heavy concealed wall hangers and two highest-grade porcelain enameled adjustable sink legs that sink can be set at any height; two $\frac{1}{2}$ -inch heavy N. P. brass flanged faucets; $1\frac{1}{2}$ -inch N. P. heavy adjustable brass trap to floor or wall with removable body. Size of sink, 20x26 inches; size of drainboard, 20x18 inches; height of back, $12\frac{3}{4}$ inches; length over all, $62\frac{3}{4}$ inches; fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections and improved strainer, requiring no bolts to go through sink. Notice our new, well formed, depressed drainboards, both evenly sloped towards sink. This is the newest product in the manufacture of sinks and beyond question it is the most massive, well-proportioned sink combination on the market, and very suitable where there is sufficient room.

Price complete as shown and described.....\$90.00

HOW TO STOP A LEAK IN A WOODEN WATER SUPPLY TANK

It is often difficult to drain wooden tanks to repair leaks. To overcome this difficulty, take about two cups of oatmeal and put in a paper bag. Tie it on the end of a stick, pushing same down in water to leak. Then, with another stick, open up paper bag slightly and the suction of the leak will draw sufficient oatmeal into opening and stop the leak, in most cases permanently.



PLATE L-334. HIGHEST-GRADE DROP APRON SINK WITHOUT DRAINBOARD

Highest grade porcelain enameled sink with oval rolled deep drop apron and rounded corners; perfectly rolled rim deep back, all cast in one piece; supported on heavy concealed wall hanger; two $\frac{1}{2}$ -inch heavy N. P. flanged faucets; $1\frac{1}{2}$ -inch N. P. heavy adjustable brass trap to floor or wall with removable body. Fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections; height of back, $12\frac{3}{4}$ inches.

Size, 18x30 inches. Price complete.....\$35.00
 Size, 20x30 inches. Price complete..... 37.00



PLATE L-335. REVERSIBLE ROLLED RIM DRAINBOARD

Highest grade porcelain enameled semi-elevated rounded edge deep rolled rim drainboard. Notice the individual designed shape furnished complete with sink clamp and heavy concealed wall bracket.

Size, 18x18 in. Price complete.....\$5.90
 Size, 20x18 in. Price complete..... 6.00
 Size, 18x24 in. Price complete..... 6.60
 Size, 20x24 in. Price complete..... 6.90

PLATE L-336. ENAMELED IRON SQUARE TAPER SLOP SINK



Highest-grade porcelain enameled iron slop sink with enamel extending over rim, with center outlet; N. P. strainer; connections for lead or iron pipe.

Size, in.	Price
16x16x10...	\$ 9.50
20x24x12...	13.80
20x30x12...	19.70

L-336

PLATE L-337. ONE-PIECE ROLLED RIM SLOP SINK OUTFIT

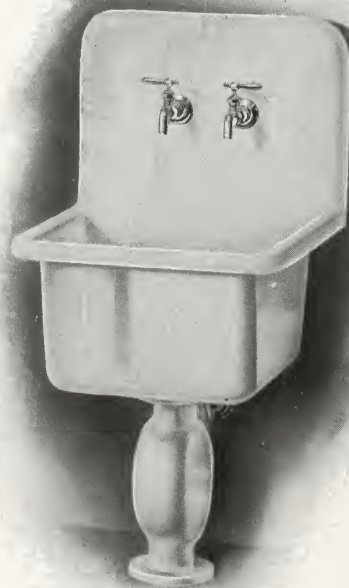
Highest-grade porcelain enameled deep rolled rim slop sink; deep rolled rim back; all cast in one piece; on patented combination cast iron bottle trap and pedestal; N. P. cast brass strainer and vent connection if necessary. This is our very newest modern slop sink outfit and is suitable for the finest hotels or homes. Height of back, 15½ inches.

Size, 16x20. Price complete\$30.00

Size, 18x22. Price complete 33.80

Size, 20x24. Price complete 37.60

If with vent on trap add \$1.50 net.



L-337



PLATE L-338. ENAMELED IRON FLAT RIM LAUNDRY TUBS

Highest grade porcelain enameled flat rim laundry tubs on new design elevated, extended base, iron pedestal; fitted with N. P. brass soap dish; new pattern close-fitting compression laundry faucets; $1\frac{1}{2}$ -inch N. P. brass adjustable trap to floor or wall with removable body and heavy $1\frac{1}{2}$ -inch N. P. brass adjustable connecting waste with cleanout on end. Fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections. Size of trays 25x26 inches; depth inside 15 inches. This is a very beautiful, sanitary and rigid laundry tub outfit.

One tray, price complete.....	\$26.70
Two tray, price complete.....	53.40
Three tray, price complete.....	79.10



PLATE L-339. ENAMELED IRON ROLL RIM LAUNDRY TUBS

Highest grade porcelain enameled oval rolled rim laundry tubs on new design elevated, extended base, iron pedestal; fitted with N. P. brass soap dish; new pattern close-fitting compression laundry faucets; $1\frac{1}{2}$ -inch brass adjustable trap to floor or wall with removable body; $1\frac{1}{2}$ -inch heavy N. P. adjustable brass connecting waste with cleanout on end. New patented hardwood wringer guard with adjustable N. P. brass attachments. Size of trays 25x26 inches; depth inside, 15 inches.

Two trays, complete.....	\$79.00	Three trays, complete.....	\$107.00
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PLATE L-340. GENUINE SLATINE LAUNDRY TUBS



L-340

Reinforced stoneware, perfectly moulded, absolutely seamless laundry tubs with zinc top moulded in all top rims. These tubs are smooth and have a light slate everlasting finish and our patented cast iron twin waste connection with one outlet, cast in bottom of tub; supported on two heavy cast iron legs with non-slipping device; legs may be screwed to floor; fitted with our new, designed $\frac{1}{2}$ in. close pattern comp. faucets, and our No.

L-686 $1\frac{1}{2}$ -inch cast iron trap to floor or wall; fitted throughout with our Hardin-Lavin patented easy adjustable iron pipe connections. These laundry tubs are very durable, sanitary, easy to keep clean and long lasting. Tubs are all 23 inches wide and 15 inches deep.

Length, 25 in.; one part.	Price complete.....	\$10.50
Length, 48 in.; two part.	Price complete.....	17.00
Length, 72 in.; three part.	Price complete.....	25.00

COMPLETE FIXTURES

Remember our prices on laundry tubs and all other fixtures in this book are complete in every respect. No extras for our Hardin-Lavin patented easy adjustable iron pipe connections, traps, faucets, etc.

PLATE L-341. GENUINE SLATINE LAUNDRY TUBS WITH HIGH BACK

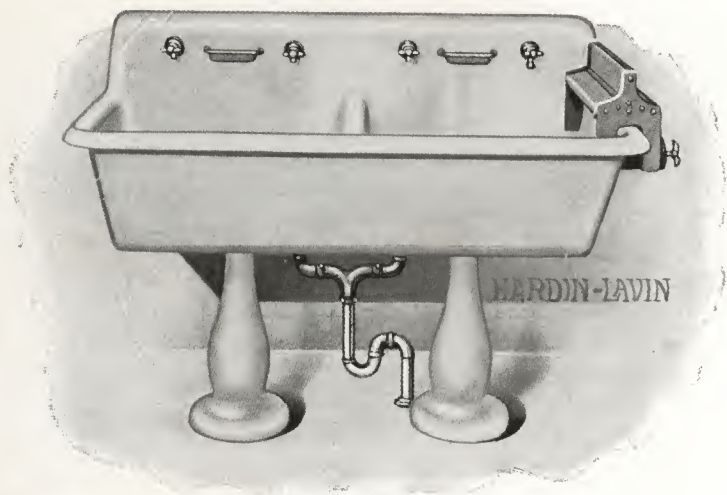
Reinforced stoneware, perfectly moulded, seamless laundry tubs with high back and zinc rim, moulded in all top rims and back. These tubs are smooth and have a light slate everlasting finish and our patented cast iron twin waste connection with one outlet, cast in bottom of tub; supported on two heavy cast iron legs with non-slipping device and legs may be screwed to floor; fitted with our new designed $\frac{1}{2}$ -inch close pattern comp. faucets, and our No. 688



L-341

$1\frac{1}{2}$ -inch cast iron trap to floor or wall; fitted throughout with our Hardin-Lavin patented easy adjustable iron pipe connections. These laundry tubs are sanitary, easy to keep clean and very suitable for any home. Tubs are all 24 inches wide and 15 inches deep.

Length, 25 in.; one part.	Price complete.....	\$14.50
Length, 48 in.; two part.	Price complete.....	23.00
Length, 72 in.; three part.	Price complete.....	32.50



L-349-A

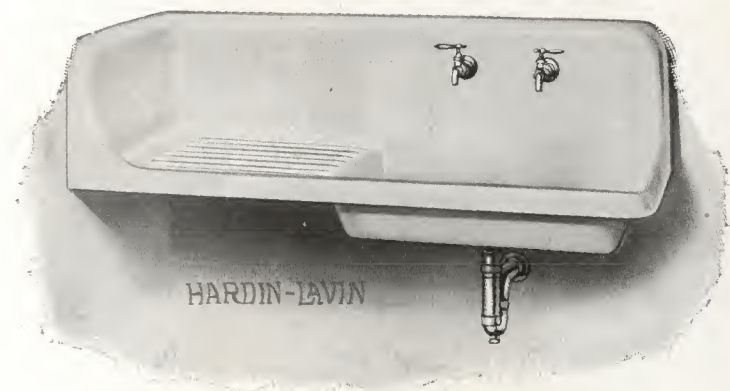
Highest-grade porcelain enameled massive one-piece oval roll rim double laundry tub with high back; supported on two iron pedestals. N. P. close pattern laundry faucets. Porcelain enameled soap cups. Twin connection $1\frac{1}{2}$ " N. P. adj. trap to floor or wall with or without vent. Furnished complete with adj. wringer holder and our easy adj. iron pipe connections.

Length over all, 54"; width, 27"; height from floor to top of tub, 34".

List price complete as shown and described.....\$89.00

OUR NEW EASY INSTALLING METHOD

In the past forty years we have gathered and perfected from actual installations and scientific experiments our simple sanitary systems incorporated with our easy installing methods and individual designed fixtures with beauty and lasting durability built thru and thru. All features that we claim are not equalled on the world's markets.



L-349-B

ONE-PIECE ROLL RIM SINK, BACK, END AND DRAIN-BOARD

Highest-grade porcelain oval roll rim sink and deep roll rim back and end with depressed draining surface pitched drainboard with elevated roll rim. All cast in one piece; supported on our heavy concealed wall hangers that sink can be set at any height. Two $\frac{1}{2}$ " N. P. heavy brass flange faucets. N. P. heavy brass $1\frac{1}{2}$ " trap to floor or wall with removable body; fitted with our improved strainer, requiring no bolts.

Note—We show left hand end and drain. We also furnish this in right-hand pattern.

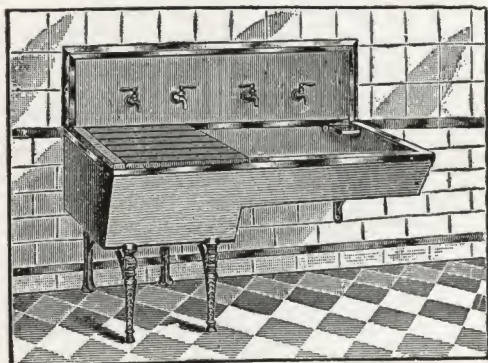
List price complete

Size of sink, 20x26 $\frac{1}{2}$ "; length over all, 44 $\frac{1}{2}$ "	\$44.00
Size of sink, 20x26 $\frac{1}{2}$ "; length over all, 48 $\frac{1}{2}$ "	46.00
Size of sink, 20x30 " ; length over all, 52 $\frac{1}{2}$ "	49.00

SAVE HARD LABOR, TIME AND UNNECESSARY MATERIAL

Even if you intend to employ a practical plumber, our new adjustable labor-saving devices and trimmings will more than surprise you, for this new method is perfect, simple and easy. It is very little more than a matter of assembling, for thruout our production, we carry in mind the fact that any handy man can do the work himself with no difficulty whatever.

STONEWARE SINK AND LAUNDRY TUB



L349D

and thru and has a light, slate, smooth, sanitary finish on the outside thruout. The drainboard is made from high quality hardwood and is reinforced and is removable. The fixture is supported on two non-slip iron legs and one concealed cast iron sink hanger. It has our new twin connection with one combined outlet. We furnish this outfit complete with nickel-plated faucets, legs, wall hanger, drainboard and indestructible iron trap. Length over all, 54 inches; width, 24 inches; depth of laundry tub, 16 inches.

This new, reinforced stoneware sink and laundry tub combination is cast in one piece with separate reinforced non-leakable back. Has metallic rims moulded around entire fixture. It is made of crushed stone, especially prepared Portland cement with iron reinforced right thru

This combination is neat in appearance, practically indestructible and with ordinary care will last a lifetime.

List price complete as shown and described.....\$40.00

You know it is different to get just what you want and need.

We guarantee that our products are exactly as we show and describe them.

If you are not satisfied, you can return them at our expense and we will refund you your money, which proves the faith we have in the superiority of our products.

Could anything be fairer?

When you see our goods, you will agree that they are even better than what we claim.

HARDIN-LAVIN CO.

PLATE 349-S

**HARDIN-LAVIN PERFECTED
KEROSENE WATER HEATER**

This improved model wickless Kerosene Water Heater is admirably adapted for installation in country and suburban homes. The same hot water conveniences as in the city can be had at a very small cost for fuel.

**NEW SIMPLIFIED CON-
STRUCTION**

The simplicity of the heater makes it a most popular type. There are few working parts, and where properly used and installed, this type of heater gives universal service, and lasting satisfaction.

VAPOR BURNER. NO WICK

This heater is the nearest thing you can purchase to a Gas Water Heater—it heats water rapidly and efficiently at a minimum cost for fuel. The built-in deflector distributes all of the heat units over the whole of the large heat absorbing surface. The vaporizing burner, a new, original feature, is simple and positive acting.

SAFE AND RAPID HEATER

The burner furnished with this heater is unlike most other burners. It is absolutely safe, quick acting, and vaporizes fuel instantly. The flame control is simple, sure and positive. Besides being a safe heater to operate, it is very economical in the consumption of fuel. One gallon of kerosene will last seven to eight hours.

DETAILED SPECIFICATIONS

HEATER—Practical, safe, reliable, and efficient.

BODY—Heavy cast iron, nothing to burn or rust out.

DOOR—Large for easy cleaning.

COILS—Double construction, best grade heavy lake copper, absorbs the heat quickly.

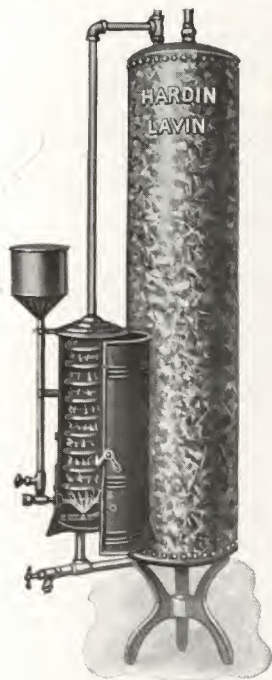
BURNER—New, patented, wickless burner vaporizes oil. Very economical. No waste.

FUEL TANK—One gallon capacity, furnished complete with valve and supply pipe.

HEATING CAPACITY—Heater will heat a 30 gallon range boiler in one hour's time.

SHIPPING WEIGHT—Heater complete, crated, 38 lbs.

Plate 349-S Kerosene Water Heater complete as shown and described—list price\$30.00



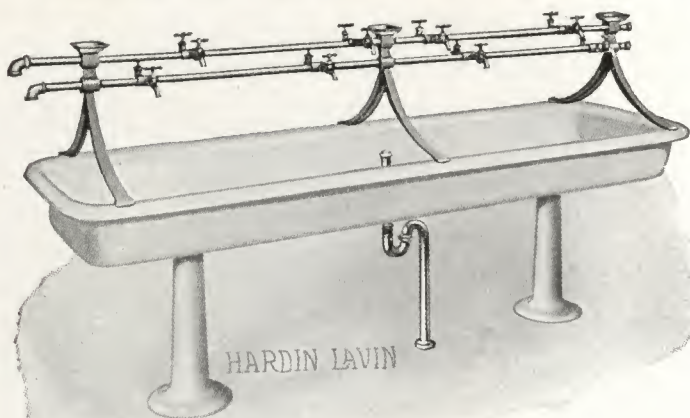


PLATE L-211A. DOUBLE ONE PIECE FACTORY WASH SINK FOR FACTORIES, SCHOOLS, INSTITUTIONS

Highest-grade porcelain enameled one-piece oval roll rim double wash sink on substantial painted iron pedestals with $1\frac{1}{2}$ -inch adjustable nickel-plated heavy brass trap and patented safety over-flow (so sink cannot overflow on floor). Cut to fit galvanized hot and cold supplies held by "Never Slip" strong pipe supports with galvanized soap cups. Fuller or Compressor faucets. Width $28\frac{1}{2}$ inches; depth inside $8\frac{1}{4}$ inches.

Notice this fixture can be used from both sides and it is the most practical and substantial wash sink manufactured and will give years of practical service.

List Prices

4 ft. long, complete with 8 faucets.....	\$61.00
6 ft. long, complete with 12 faucets.....	80.00
8 ft. long, complete with 16 faucets.....	98.00



L-211B

We can also furnish this fixture with double combination hot and cold mixing faucets, similar to L-211B.

4 ft. long, complete with 4 double faucets.....	\$ 68.00
6 ft. long, complete with 6 double faucets.....	89.00
8 ft. long, complete with 8 double faucets.....	109.00

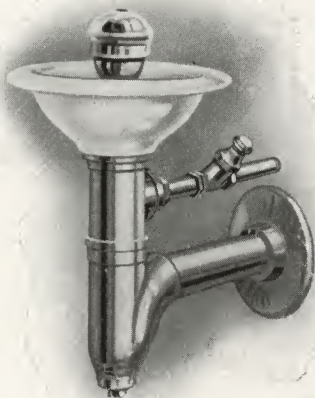
HOW TO REMOVE FLANGED JOINT PACKING

When the pipe is so rigid that the flange cannot be pried apart sufficiently to take out old gasket, take a fine saw and saw it out. Sometimes, it can be spread to remove it with a thin, narrow, tapered chisel.

**PLATE L-344. ENAMELED
IRON SIDE WALL BUB-
BLING FOUNTAIN**

L-344. Highest-grade porcelain enameled in and out rolled rim bowl with our new adjustable heavy N. P. brass bubbling fountain. $\frac{1}{2}$ in. positive self-closing valve on supply; fitted with $1\frac{1}{2}$ in. cast trap and $1\frac{1}{2}$ in. waste and side wall flange that sewer gas cannot escape through fountain. Bubbler is so constructed that the supply of water can be adjusted. All fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections. Diameter of bowl, $9\frac{3}{8}$ in.

Price complete.....\$19.60



L-344

**PLATE L-346. ENAMELED IRON
PEDESTAL DRINKING FOUNTAIN WITH MOUTH GUARD**

L-346. Highest-grade porcelain enameled in and out pedestal drinking fountain with rolled extended base and beautifully formed rolled basin. Has vitreous china bubbler with mouth protecting guard and concealed pressure regulator; self-closing water operating valve. This fixture is our newest designed porcelain enameled pedestal drinking fountain. Outside diameter, $13\frac{1}{4}$ in.; height to top of fixture, 30 in.

Price, complete as shown and described\$36.50

L-346

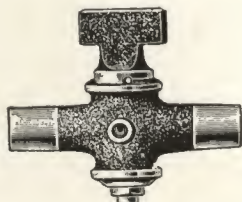
GROUND KEY WORK

Hardin-Lavin heavy cast brass with nut and washer machined ground key cocks. All standard pattern with heavy stops and pins.



L-350

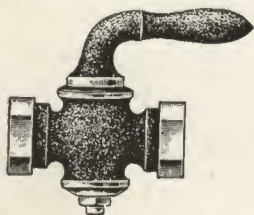
Lever handle stop and waste
for lead pipe



L-351

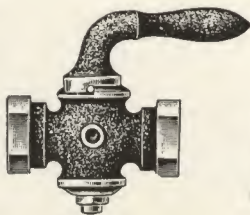
T handle stop and waste for
lead pipe

Size	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	1 in.
L-350, L-351. Price each.....	\$0.96	\$1.20	\$2.00



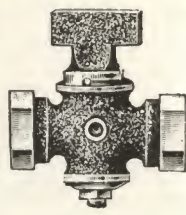
L-352

Lever handle stop
for iron pipe.



L-353

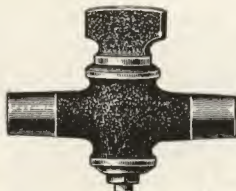
Lever handle stop
and waste for iron
pipe.



L-354

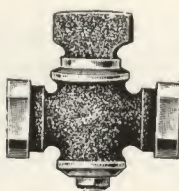
T handle stop and
waste for iron pipes.

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	1 in.
L-352, L-353, L-354. Price each.....	\$1.00	\$1.30	\$2.20



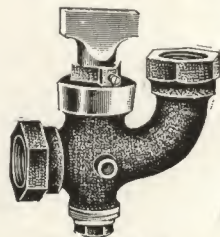
L-355

T handle roundway
for lead pipe.



L-356

T handle roundway
for iron pipe.



L-357

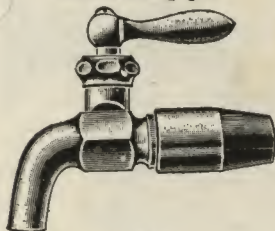
T handle hydrant
cock with waste for
iron pipe.

Size	$\frac{3}{4}$ in.	1 in.	$1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.
L-355, L-356. Price each	\$2.00	\$2.80	\$4.60	\$6.60
L-357. Price each.....	2.90	3.90	6.00	....

FULLER FAUCETS OR BIBBS

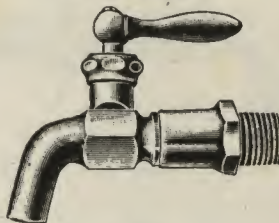
Hardin-Lavin cast brass wide opening with standard threads throughout. Will fit any regular thread.

For lead pipe.



L-358

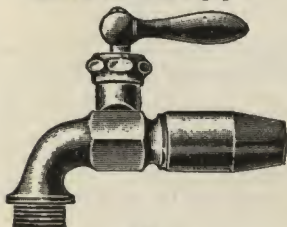
For iron pipe.



L-359

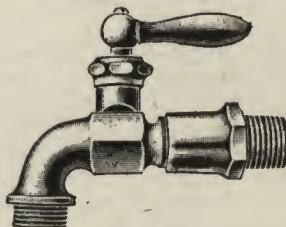
Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-358, L-359. Price each, highly polished.....	\$0.96	\$1.18
L-358, L-359. Price each, nickelplated	1.16	1.38

Hose for lead pipe.



L-360

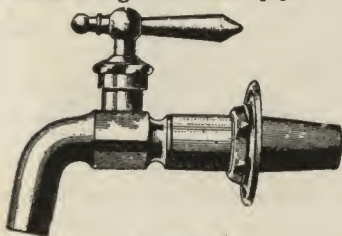
Hose for iron pipe.



L-361

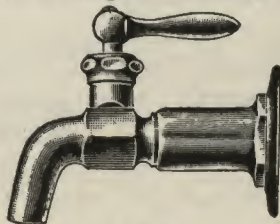
Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-360, L-361. Price each, polished	\$1.20	\$1.40
L-360, L-361. Price each, nickelplated.....	1.40	1.60

With flange for lead pipe.



L-362

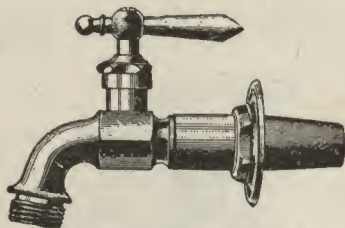
With flange for iron pipe.



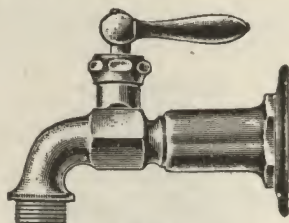
L-363

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-362, L-363. Price each, polished	\$1.60	\$2.00
L-362, L-363. Price each, nickelplated	1.80	2.20

FULLER FAUCETS OR BIBBS—Continued



L-364

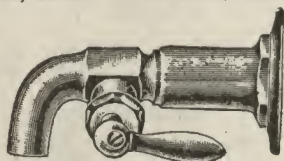


L-365

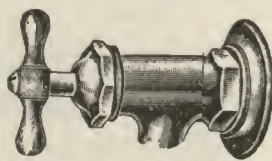
Hose with flange for lead pipe.

Hose with flange for iron pipe.

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-364, L-365. Price each, highly polished.....	\$1.60	\$1.80
L-364, L-365. Price each, nickelplated	1.90	2.00



L-366



L-367

Fuller faucet with flange for laundry tubs.

Compression stub faucet with flange for laundry tub.

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-366. Price each, highly polished.....	\$1.60	\$1.90
L-366. Price each, nickelplated	1.80	2.10
L-367. Price each, highly polished.....	1.00	....

FULLER REPAIRS

Standard sizes and threads for all regular faucets.



L-368

Extension tail piece for Fuller faucet.



L-369

Fuller eccentric.



L-370

Fuller stem.

Size	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.
L-368. Price each, highly polished.....	\$0.40	\$0.50
L-368. Price each, nickelplated .....	.60	.70
L-369, L-370. For $\frac{1}{2}$ in. and $\frac{5}{8}$ in. faucets. Price each. ....	.24	.30



L-371

Fuller ball.



L-372

Fuller cap.



L-373

Fuller nut.



L-374

Felt Fuller packing.

Size	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.
L-371. Fuller balls, cold, per doz.....	\$0.30	\$0.30
L-371. Fuller balls, hot, per doz.....	.40	.40
L-372. Fuller caps, per doz.....	.30	.30
L-373. Fuller nuts, per doz.....	.40	.40
L-374. Fuller packing, per doz.....	.40	.40

FULLER AND COMPRESSED BASIN FAUCETS OR COCKS

Our basin faucets are heavy cast brass, well nickelplated; are all threaded regular on bodies and all furnished with unions and tail pieces for iron pipe conns.

FULLER



L-375

New designed basin faucet with fancy body.



L-376

Basin faucet with china handle and indexed top marked hot and cold.

- | | | |
|--------|--|--------|
| L-375. | Price complete as shown and described..... | \$1.90 |
| L-376. | Price complete as shown and described..... | 3.00 |
| L-376. | Price complete with union in body..... | 3.70 |

COMPRESSION



L-377

Chicago pattern china indexed top, ball handle, marked hot and cold with heavy body.



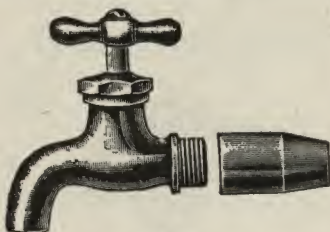
L-378

Hardin elevated pattern china indexed top, ball handle marked hot and cold for large fixtures.

- | | | |
|--------|--|--------|
| L-377. | Price complete as shown and described..... | \$1.60 |
| L-378. | Price complete as shown and described..... | 2.20 |

COMPRESSION FAUCETS

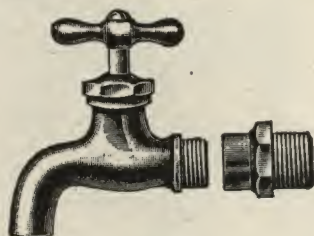
Heavy cast brass compression faucets with loose tail pieces; regular threads and patented stuffing boxes; will interchange with any standard Fuller or Compression faucet.



L-379

For lead pipe

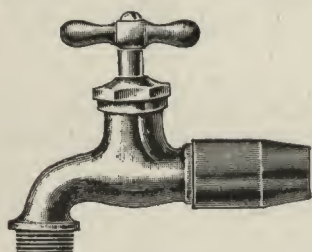
Size	$\frac{1}{2}$ in.	
L-379, L-380. Price each, highly polished.....	\$1.30	
L-379, L-380. Price each, nickelplated.....	1.50	



L-380

For iron pipe

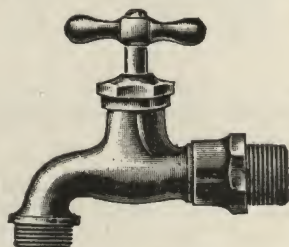
$\frac{3}{4}$ in.
\$1.40
1.60



L-381

Hose for lead pipe

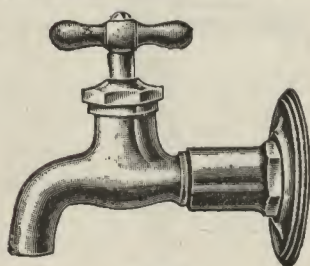
Size	$\frac{1}{2}$ in.	
L-381, L-382. Price each, highly polished.....	\$1.40	
L-381, L-382. Price each, nickelplated.....	1.60	



L-382

Hose for iron pipe

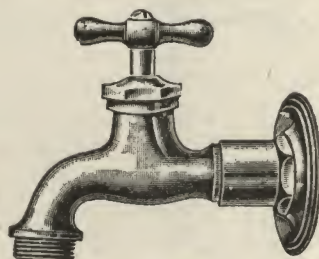
$\frac{3}{4}$ in.
\$1.60
1.80



L-383

With flange for iron pipe

Size	$\frac{1}{2}$ in.	
L-383. Price each, highly polished.....	\$1.60	
L-383. Price each, nickelplated	1.80	
L-384. Price each, highly polished.....	1.70	
L-384. Price each, nickelplated	1.90	



L-384

Hose with flange for iron pipe

$\frac{3}{4}$ in.
\$1.90
2.10
2.00
2.20

SELF-CLOSING BASIN FAUCETS

Heavy cast brass bodies, all well nickelplated; practically designed mechanism and wide opening flow; all fitted with our patented stuffing boxes.



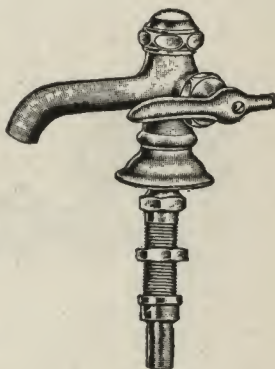
L-385

Heavy Boston pattern T handle.



L-386

Hardin pattern china indexed top marked hot and cold. Ball handle semi-elevated design.



L-387

Lavin lever handle china index top marked hot or cold, best model.

L-385.	Price complete as shown and described.....	\$3.30
L-386.	Price complete as shown and described.....	3.50
L-387.	Price complete as shown and described.....	3.80

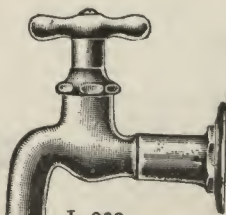
HARDIN-LAVIN SELF-CLOSING SINK FAUCETS AND STOPS

Heavy cast brass bodies, all well nickel plated; sink faucets have removable tail pieces interchangeable with standard Fuller or Compression faucets; all have wide opening flow; fitted with our patented stuffing boxes.



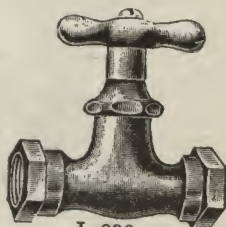
L-388

T handle with loose tail piece.



L-389

T handle with loose flange tail piece.



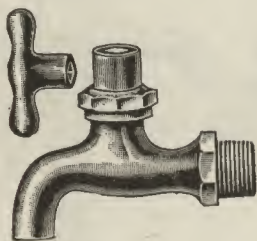
L-390

Self-closing stop.

Size	.....	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.
L-388.	Price each, highly polished.....		\$2.60	\$2.80
L-388.	Price each, nickelplated.....		2.80	3.00
L-389.	Price each, highly polished.....		2.90	3.10
L-389.	Price each, nickelplated.....		3.10	3.30
L-390.	Price each, highly polished.....	\$1.70	1.90	3.00
L-390.	Price each, nickelplated.....	1.90	2.10	3.20

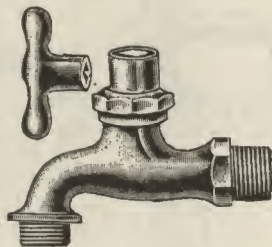
LOOSE KEY COMPRESSION FAUCETS OR BIBBS

Heavy cast brass bodies; all fitted with our patented stuffing boxes and removable handle or key.



L-391

Solid pattern



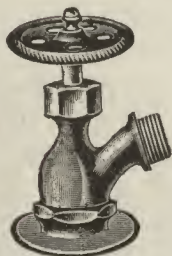
L-392

Solid pattern for hose

Size	.....	1/2 in.	3/4 in.
L-391.	Price each, highly polished	\$1.38	\$1.70
L-391.	Price each, nickelplated	1.58	1.90
L-392.	Price each, highly polished	1.50	1.90
L-392.	Price each, nickelplated	1.70	2.20

Our Brass Goods are all Standard Sizes.

NEW DESIGNED SILL COCKS OR HOSE VALVES



L-393

With wheel handle



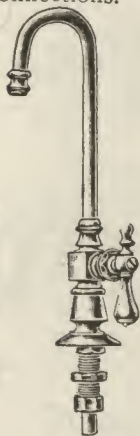
L-394

With loose key

Size	.....	1/2 in.	3/4 in.
L-393.	Price each, nickelplated	\$1.50	\$1.60
L-394.	Price each, nickelplated	1.60	1.70

**MODERN PATTERN FULLER PANTRY AND BARBER
NICKELPLATED FAUCETS**

All furnished complete with unions and tail pieces for iron pipe connections.



L-395

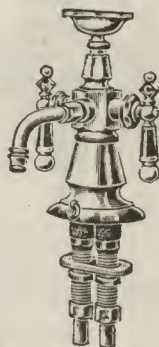
Single pantry faucet for hot and cold.

L-395. Price each, complete
L-396. Price each, complete
L-397. Price each, complete



L-396

Double pantry faucet for hot and cold.



L-397

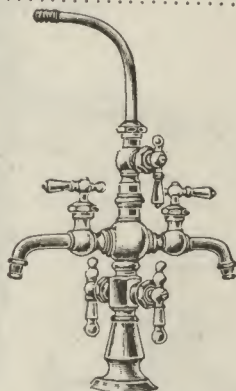
Double barber faucet for hot and cold.

\$ 2.80
9.50
10.50



L-398

Double barber faucet for hot and cold with shampoo attachment.



L-399

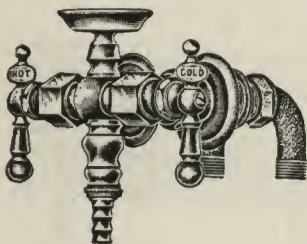
Double barber faucet for hot and cold with shampoo attachment suitable for double lavatory.

L-398. Price each\$17.00
L-399. Price each20.00

HEAVY NICKELPLATED CAST BRASS FULLER AND COMPRESSION BATH FAUCETS

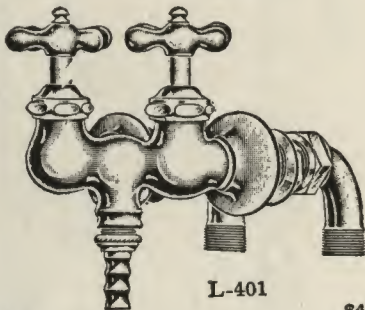
With adjustable flanges, lock nuts, unions and tail pieces throughout for iron pipe connections.

Fuller



L-400

Compression



L-401

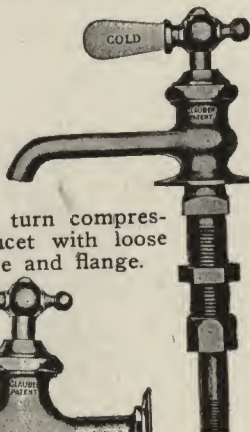
L-400.	Price complete, nickelplated.....	\$4.40
L-401.	Price complete, nickelplated.....	4.00

MODERN QUICK COMPRESSION FAUCETS

All furnished with unions and tail pieces for iron pipe connections.

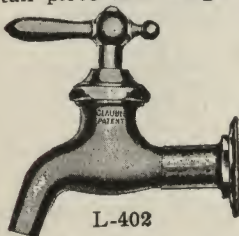
Quick turn compression basin faucet with china handle indexed.

Quick turn compression bath cock with china indexed handles.

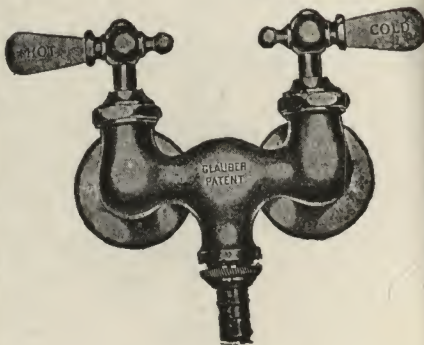


L-403

Quick turn compression faucet with loose tail piece and flange.



L-402



L-404

Size	1/2 in.	3/4 in.
L-402.	Price each, highly polished.....	\$1.90
L-402.	Price each, nickelplated.....	2.20
L-403.	Price each, nickelplated.....	3.50
L-404.	Price each, nickelplated.....	5.20

HARDIN-LAVIN NEW-EST DESIGNED COMBINATION BASIN AND SHAMPOO FAUCETS

This is the most practical, durable and newest combination shampoo and basin faucet on the market. All faucets and stops are china indexed, marked "hot" and "cold." We can make this faucet to fit any spread on lavatory. It makes a very beautiful and substantial shampoo and faucet apparatus.

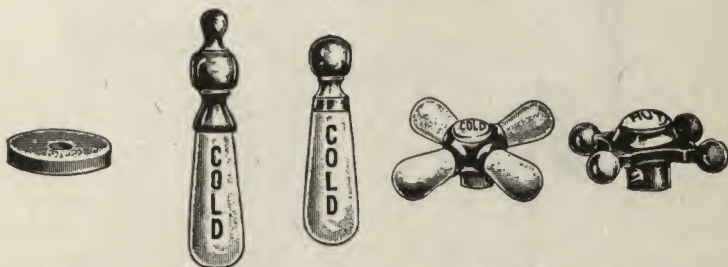
Price, complete with tail pieces and unions, threaded for iron pipe connections\$19.90



L-405

Give distance from center to center of faucets.

HANDLES FOR FULLER AND COMPRESSION FAUCETS AND COMPRESSION DISCS



L-406

L-407

L-408

L-409

L-410

Compression faucet discs.

China handle marked hot and cold for bath faucet.

China handle marked hot and cold for sink or basin faucet.

Cross china handle with china index marked hot and cold for basin faucet.

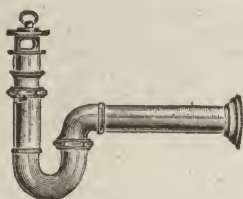
Ball handle with china index marked hot and cold for basin faucet.

Size			$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 in.
L-406.	Fiber or red rubber. Price per doz.....		\$0.20	\$0.24	\$0.24	\$0.24	\$0.30
L-407.	China handle indexed N. P. body. Price each.....						.70
L-408.	China handle indexed N. P. body. Price each.....						.63
L-409.	China handle indexed N. P. body. Price each.....						1.50
L-410.	Ball handle indexed top N. P. body. Price each.....						.80

HARDIN-LAVIN WELL FORMED N. P. BRASS ADJUST- ABLE AND S TRAPS TO FLOOR OR WALL

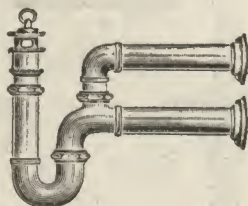
With heavy cast brass adjustable nuts and threads with long adjustable inlets and outlets that fixture can be set up or down, one way or the other, as desired; with Hardin-Lavin patented removable bodies for cleaning, etc.

We guarantee satisfaction.



L-411

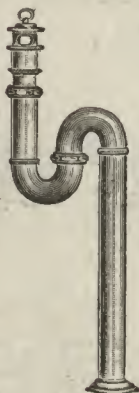
P for wall connection



L-412

P vented for wall connection

Size	1¼ in.	1½ in.
L-411. Price complete with flanges.....	\$3.00	\$3.90
L-412. Price complete with flanges.....	4.90	5.60



L-413

S for floor connection



L-414

S vented for floor connection

Size	1¼ in.	1½ in.
L-413. Price complete with flanges	\$3.50	\$5.10
L-414. Price complete with flanges	4.30	5.90

CEMENT FOR MENDING STEAM BOILERS

Mix two parts of finely powdered litharge with one part of very fine sand and one part of quick lime which has been allowed to slack spontaneously by exposure to the air. This mixture may be kept any length of time. In using it, a portion of it is mixed into a paste with boiled linseed oil. In this state it must be quickly applied, as it soon becomes hard.

HOW TO MAKE SOLDERING ACID

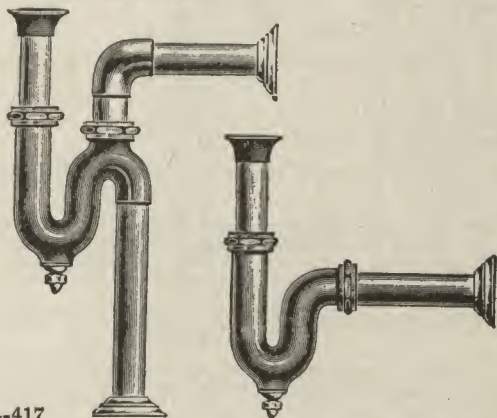
Take about $\frac{1}{4}$ cup of muriatic acid and add enough chips of zinc until acid stops boiling. Then acid is killed and ready for use.

HOW TO SOLDER GALVANIZED IRON

In the first place, clean off article you are going to solder well. Then apply killed muriatic acid. Be sure that soldering copper is well tinned. Heat up very hot and apply solder on galvanized iron. If iron is not hot, the solder will stick on the galvanized only and will soon peel off, but in using a hot copper, it will go right down to the iron.

HARDIN-LAVIN ADJUSTABLE NICKELPLATED BRASS SINK TRAPS

With heavy cast brass adjustable nuts and threads with long adjustable inlets and outlets that sinks can be set up or down, one way or the other, as desired; with Hardin-Lavin patented removable bodies for cleaning, etc.



L-417
S vented for floor
connection

L-418
P for wall connection

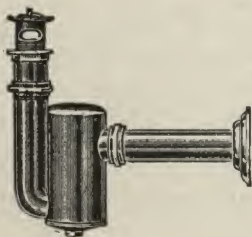
Size		
L-417.	Price, complete with flanges without vent.....	1 $\frac{1}{2}$ in. \$4.70
L-417.	Price, complete with flanges with vent.....	5.70
L-418.	Price, complete with flanges without vent.....	3.70
L-418.	Price, complete with flanges with vent.....	5.00

For cleanout on bottom of body, add 25c.

NICKELPLATED BRASS NON-SYPHONING BASIN AND SINK TRAPS

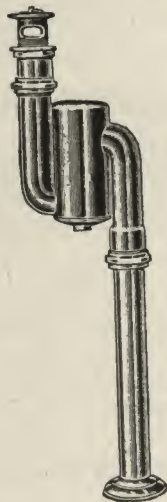
Hardin-Lavin modern designed non-syphoning nickelplated heavy brass traps to floor or wall with our patented long inlet and outlet adjustment that fixture can be set at any height; with Hardin-Lavin patd. removable bodies for cleaning. This is the most practical and up-to-date barrel trap on the market and absolutely will not syphon. We advise using these traps for fixtures that syphon and in particular where there is no vent carried through roof.

Our goods are easily installed. Our products from a fitting to a complete outfit are manufactured with the fact in mind that any handy man can do the work himself.



L-419

P for wall connection



L-420

S for floor connection

Size	1 1/4 in.	1 1/2 in.
L-419. Price, complete with flanges.....	\$6.00	\$6.70
L-420. Price, complete with flanges.....	6.30	7.00

HOW TO PAINT OR CALCIMINE EXPOSED SOIL STACK IN ROOM

As a rule, the heavy tar coating on soil stack will show through almost any light paint. To remedy this, give the pipe several coats of shellac, such as carpenters use. Then you can put on any color you wish and the black tar will not show through.

HOW TO INSTALL A HORIZONTAL SOIL STACK IN BASEMENT

Lay out system on floor, making cuts and putting on fittings. Calk two or three joints and raise together. Support on temporary wooden hangers. Put up entire system in sections. Rehang with our hangers L-755. Give at least 1 1/2 in. pitch to 10 ft. Recalk all joints well.

HOW TO THAW WATER PIPES

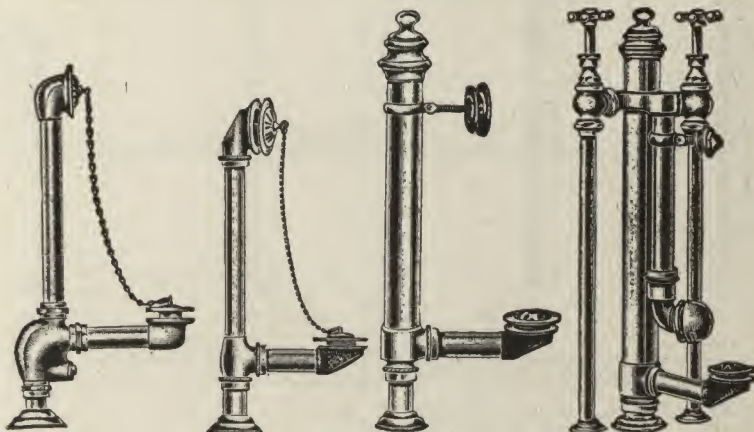
The easiest method for thawing water pipes is a blow torch. In many cases there is packing of straw or paper around the pipes. In this case, it is very dangerous to use a blow torch. We would then advise using extremely hot water that can be applied with a large rag or sponge. In some cases a tea kettle can be used.

PLAIN FACTS

If you were thinking about building a home, naturally you would consult a good, reliable architect first. A carpenter or a plumber or a plasterer could give you some general information, but an architect is the man to consult for practical, common-sense information. The same principle applies to laying out your plumbing and heating plant. We certainly are in a better position to help you select your plumbing fixtures, your roughing-in material and your heating plant, as we have made a life study of plumbing and heating supplies and maintain a practical department to help you select the most suitable and durable fixtures, figure out your heating plant for you and show you, free of charge, the easiest possible way known that you can install our goods yourself in a practical and up-to-date manner.

BATH TUBS, WASTES, ETC.

Hardin-Lavin nickel-plated brass adjustable wastes and overflows with and without traps. Ideal waste and combination ideal waste and supply outfit. All well formed and fitted throughout with our Hardin-Lavin easy adjustable devices.



L-421
Waste & Over-
flow with
Bath Trap
Above Floor.

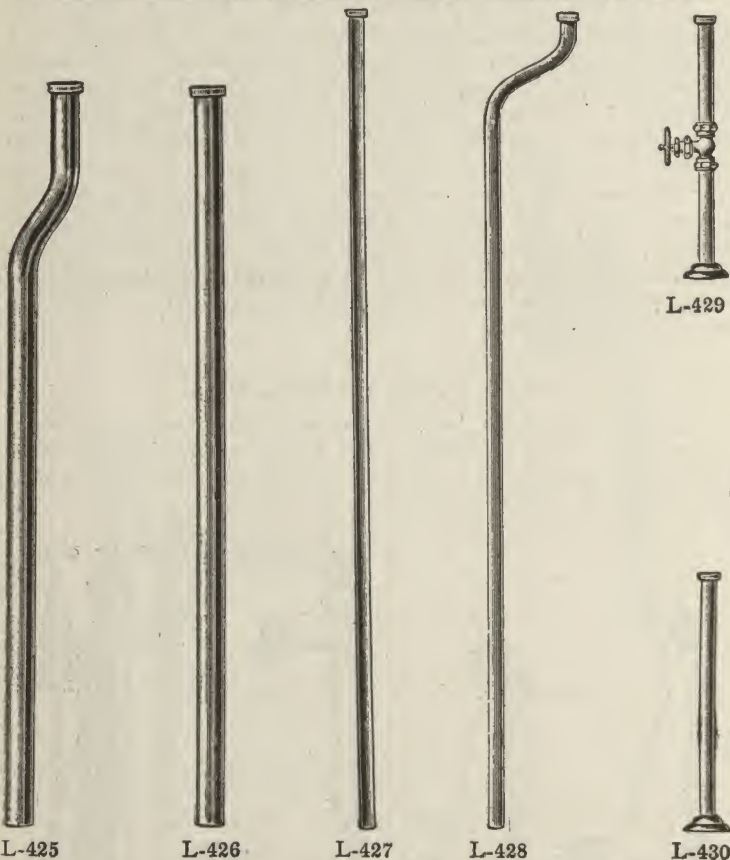
L-422
Waste & Over-
flow with Ad-
justments.

L-423
Ideal Waste for
Bath or Lav-
atory.

L-424
C o m b i n a t i o n
Ideal Waste
Supplies and
Faucet Outfit.

	Price Complete
L-421. Waste and overflow with trap above floor.....	\$ 7.00
L-422. Adjustable waste and overflow.....	3.50
L-423. Ideal waste for bathtub with china top.....	11.50
L-423. Ideal waste for lavatory with china top.....	6.50
L-424. Waste bell supply faucet outfit.....	31.00

HARDIN-LAVIN NICKELPLATED BRASS SUPPLIES AND FLUSH PIPES FOR HIGH AND LOW CLOSET OUTFITS



Size		Length	1 1/4 in.	1 1/2 in.
L-425.	Offset flush pipe. Price each.....	6 ft.	\$3.80	\$4.40
L-426.	Straight flush pipe. Price each.....	6 ft.	4.20	4.70
L-427.	Straight supply pipe. Price each.....	6 ft.	...	5.90
L-428.	Offset supply pipe. Price each.....	6 ft.	...	6.80
L-429.	Supply for low tank with stop cock.			
	Price each	18 in.	...	3.60
L-430.	Supply for low. Price each	18 in.	...	2.30

UNDER FLOOR WASTE IN BATHROOMS

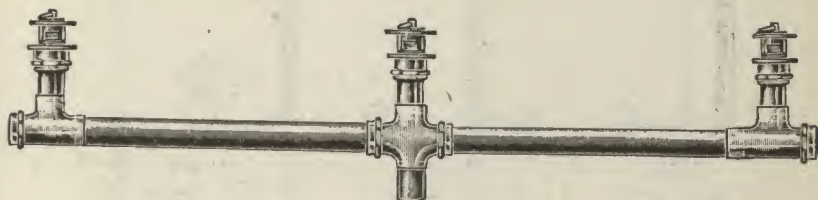
Cut good long threads and use plenty of paint in making up joints. Do not turn your pipe or fittings too tight, as there is no pressure on waste work. Then you can easily adjust to any position necessary.

SIZE OF STEAM COIL REQUIRED TO HEAT HOT WATER TANKS

Ordinarily, steam coils in hot water tanks are made out of 1 in. pipe and a good average is 1 ft. of steam pipe for every 6 gallons of water to be heated.

HARDIN-LAVIN BRASS TUBING ADJUSTABLE CONTINUOUS WASTES FOR LAVATORIES AND LAUNDRY TUBS

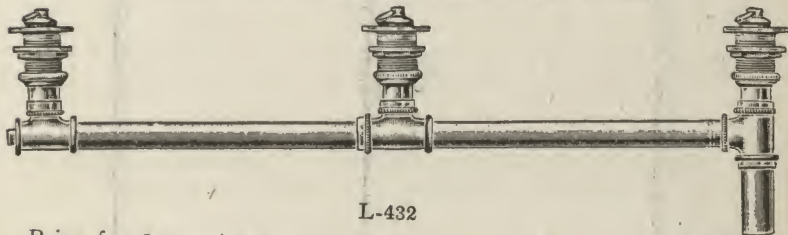
With end or center trap connections and cleanout ends. We make these continuous wastes for any number of openings. Fitted throughout with our Hardin-Lavin easy installing adjustments. Give center to center measurements. 1¼-inch nickel plated for lavatory.



L-431

Price for 2 lavatories.....	\$ 7.00
Price for 3 lavatories.....	11.00
Price for 4 lavatories.....	15.00
Price for 5 lavatories.....	19.00
Price for 6 lavatories.....	23.00

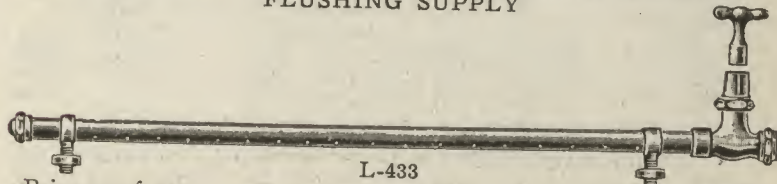
1½-INCH PLAIN FOR LAUNDRY TUBS



L-432

Price for 2 openings laundry tub.....	\$ 9.00
Price for 3 openings laundry tub.....	13.00
Price for 4 openings laundry tub.....	16.50

¾-INCH NICKEL PLATED BRASS PERFORATED URINAL FLUSHING SUPPLY



L-433

Price per foot	\$1.40
Price loose key valve, each.....	1.80
Price holding straps with nuts, each.....	.70
Price cap .....	.50

HARDIN-LAVIN ADJUSTABLE NICKELPLATED BRASS SUPPLIES TO FLOOR OR WALL

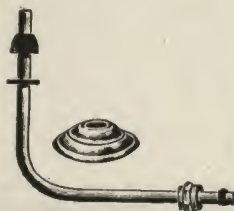
Hardin-Lavin lavatory adjustable nickelplated brass supplies to floor or wall; all fitted with our Hardin-Lavin easy installing iron pipe connections.



L-434
3/8 to wall.



L-435
3/8 to wall with valve.



L-436
Hardin Handy to wall

L-434.	Price complete with flange, per pair.....	\$4.40
L-435.	Price complete with flange, per pair.....	8.40
L-436.	Price complete with flange, per pair.....	1.50



L-437
3/8 to floor.



L-438
3/8 to floor with valve.



L-439
Hardin Handy to floor.

L-437.	Price complete with flange, per pair.....	\$4.20
L-438.	Price complete with flange, per pair.....	8.40
L-439.	Price complete with flange, per pair.....	3.00

HOW TO TAKE CARE OF WIPING SOLDER

The first essential point to be considered is: Do not heat the solder too much as this will burn out the tin. Take a small chip of white, clean pine and dip into solder pot and if same chars or blackens in about five seconds you have sufficient heat. If it chars instantly, you have too much heat. Never dip any brass into the solder pot, as this will ruin same.

**HARDIN-LAVIN NICKELPLATED ADJUSTABLE BATH
SUPPLIES TO FLOOR OR WALL**

All fitted throughout with our Hardin-Lavin adjustable easy
iron pipe connections. Regular designs.



L-440
Straight.



L-441
Offset.



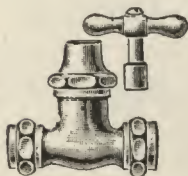
L-442
Ball offset.



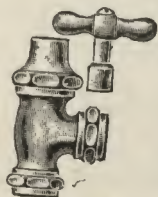
L-443
Hardin Handy
offset.

L-440.	Price each.....	\$5.00
L-441.	Price each.....	5.00
L-442.	Price each.....	8.00
L-443.	Price each.....	4.00

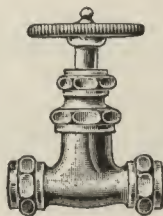
**HARDIN-LAVIN NICKELPLATED BRASS STRAIGHT AND
ANGLE URINAL OR LAVATORY SUPPLY VALVES
WITH LOOSE KEY AND WHEEL HANDLES**



L-444
Straight with
loose key.



L-445
Angle with
loose key.



L-446
Straight with
wheel.



L-447
Angle with
wheel.

Size	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.
L-444, L-445	\$1.30	\$1.50
L-446, L-447	1.40	1.50

TRIMMINGS FOR OLD STYLE SINKS, ETC.



L-448

Nickelplated brass
sink strainer.



L-449

Nickelplated brass
sink strainer with
plug.



L-450

Patented sink
strainer with closing
device.

L-448.	Price each	\$0.30
L-449.	Price each .....	.50
L-450.	Price each	1.20



L-451

Old style
sink collar.



L-452

Sink collar
tapped 1 1/2 in.



L-453

Long sink
bolt.



L-454

Short sink
bolt.

L-451.	Price each	\$0.20
L-452.	Price each .....	.40
L-453.	Price each .....	.02
L-454.	Price each .....	.02



L-455

Brass laundry plug
complete.



L-456

Brass basin clamp
and bolt.



L-457

Old style bar
sink plug

L-455.	Price each	\$0.40
L-456.	Price each .....	.16
L-457.	Price each .....	.36

TO RESET BRASS SPUD IN CLOSET BOWL

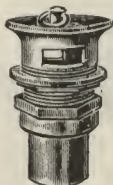
It often happens in installing a closet bowl, the flush connection is made too tight with wrench, which will spring a leak between the closet spud and bowl. To repair this, disconnect your flush connection. Hold on inside with lugs. Sometimes it can be held with a plier on extreme edge. Then take an ordinary monkey wrench and loosen lock nut, taking off spud by turning back and forth. You will often find the lugs that hold the spud against the bowl are sprung. If you are careful, you can turn these back into place with a pair of pliers. Reset spud. Be careful not to screw lock nut too tight.

BRASS PLUGS, UNIONS, TAIL PIECES AND LOCK NUTS
FOR OLD STYLE BASINS, LAUNDRY TUBS, ETC.



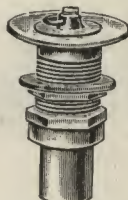
L-458

1 1/8 in. for C.
O. M. P. basin
bowl.



L-459

1 1/8 in. for P.
O. M. P. basin
bowl.



L-460

1 1/2 in. for
slate or wood
sink.



L-461

1 1/2 in. for
slate or wood
laundry tub.

L-458.	Price each	.....	\$0.70
L-459.	Price each	.....	.80
L-460.	Price each	.....	2.20
L-461.	Price each	.....	1.80

WE HELP YOU DO THE WORK



L-462

Heavy N. P. brass plumbers'
chain.



L-463

Nickelplated brass faucet hole
cover and nut.

L-462.	Price per yd.....	\$0.30	L-463.	Price each.....	\$0.50
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OUR AIM IS TO FURNISH ALL GOODS WITH ADJUST-
ABLE CONNECTIONS IF POSSIBLE



L-464

Hardin adjustable
closet supply holder.



L-465

Hardin adjustable
flush pipe holder and
bumper.

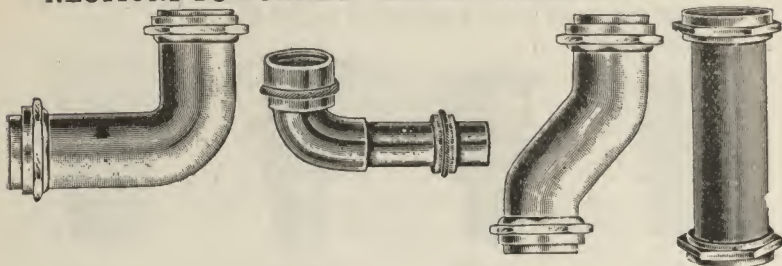


L-466

Regular flush pipe
bumper.

L-464.	Price each	.....	\$0.60
L-465.	Price each	.....	.90
L-466.	Price each	.....	.40

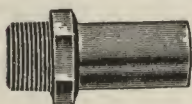
HARDIN-LAVIN NICKELPLATED ADJUSTABLE CONNECTIONS TO CONNECT CLOSET TANKS TO BOWLS



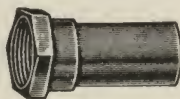
L-467	L-468	L-469	L-470
2 in. for washdown bowl low closet outfit.	1 1/4 in. for washdown bowl high closet outfit.	2 in. offset for syphon jet low closet out- fit.	2 in. straight for syphon jet low closet out- fit.
L-467. Price each, complete with unions and washers.....	L-468. Price each, complete with unions and washers.....	L-469. Price each, complete with unions and washers.....	L-470. Price each, complete with unions and washers.....
			\$2.00
			1.20
			2.40
			2.00

Remember, we guarantee satisfaction

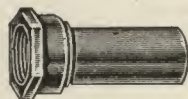
BRASS SOLDER NIPPLES AND UNIONS USED TO CONNECT LEAD TO IRON PIPE



L-492
Male solder nipple.



L-493
Female solder nipple.



L-494
Solder union.

Size	3/8 in.	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.
L-492, L-493, L-494. Price each..	\$0.20	\$0.22	\$0.24	\$0.32	\$0.48	\$0.60

HOW TO REPAIR CRACKS IN LAUNDRY TUBS

Take powdered litharge and mix with sufficient liquid glycerine to make a thick paste or putty. Be sure that the part is well cleaned and dried before applying.

HOW TO MAKE GOOD CEMENT FOR REPAIRING LEAKS IN GAS PIPING

Take 4 1/2 parts of rosin, 1 part of beeswax and 3 parts of Venetian red.

DESCRIPTIONS

In ordering from us, whether it is a small valve or a complete outfit, you will find that you will get exactly what you ask for.

Throughout this book we have described our fixtures as plainly and briefly as possible, not devoting a great deal of unnecessary space in long drawn-out explanations.

A trial order will convince you that we handle only the highest grade material; our prices are right and our service cannot be surpassed.

FERRULES

All Standard Sizes and Designs



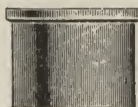
L-476

4 in. solid
brass.



L-477

4 in. solid
brass with trap
screw.



L-478

4 in. iron
drive ferrule.



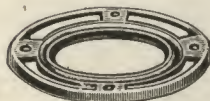
L-479

4 in. iron
body with
brass trap
screw.

L-476. Price each \$1.20
L-477. Price each 3.00

L-478. Price each \$0.30
L-479. Price each 1.00

CLOSET BOLTS, WASHERS AND FLANGES



L-480

Brass closet
floor flange.



L-481

Closet Bolt
N. P. head.



L-482

Closet bolt
for closet
flange.



L-483

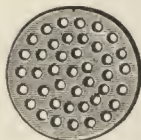
N. P. brass
closet bolt
washer.

L-480. Price each \$2.00
L-481. Price each80

L-482. Price each \$0.12
L-483. Price each04

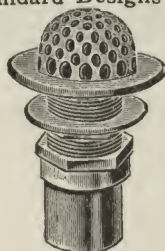
HEAVY BRASS STRAINERS FOR ROOFS, URINALS AND SHOWER BATHS

All Standard Designs and Sizes



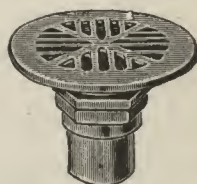
L-484

Plain heavy brass
strainer.



L-485

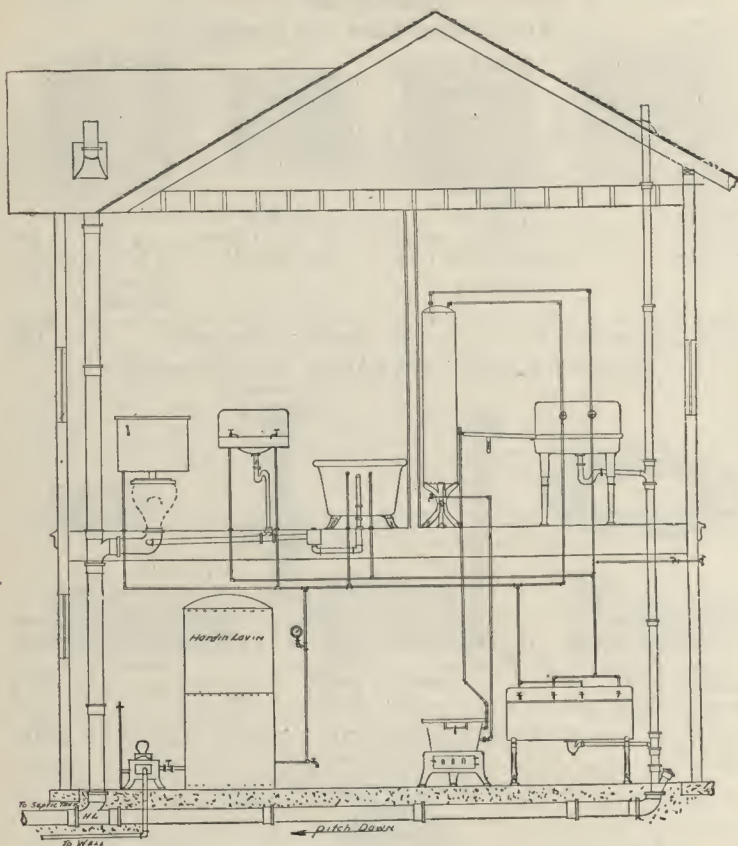
Heavy raised N. P.
brass strainer with
lock nut, tail piece
and union for urinal
trough or stall.



L-486

Heavy N. P. brass
strainer with lock
nut, union and tail
piece for shower
bath receptor.

Size	3 in.	4 in.	5 in.	6 in.
L-484. Price	\$3.90	\$6.00	\$11.50	\$15.00
L-485. Price	4.20	...	...	...
L-486. Price	2.50	...	...	...



Elevation showing simplified suburban or country plumbing installation.

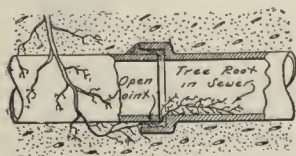


Illustration shows how poorly cemented tile sewer will permit roots to enter.

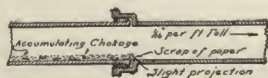


Illustration showing how bad joint in castiron sewer pipe may cause stoppage.

WHY PAY PLUMBERS' BILLS?

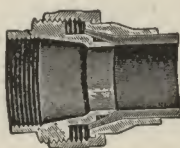
HARDIN-LAVIN PATENTED LEAD TO IRON AND LEAD TO LEAD GROUND JOINT BRASS CONNECTIONS

There has been a great demand for a reliable as well as a permanent lead to iron and lead to lead handy connection and we have solved the problem. It is a known fact that if you call a plumber to wipe a joint on a lead pipe he will make it a three or four-hour job and charge you high prices for material. With this simple device any handy man with a hammer, wrench and an ordinary top can do this job in about 15 minutes.

DIRECTIONS

Cut off your lead, slip lead end of coupling over same. Drive in an ordinary wooden top or anything that will slightly expand the end of the lead pipe, screwing the opposite end on your iron pipe. Then tighten up your union nut and your job is complete.

We guarantee that this handy coupling will stand up under all conditions under the ground or elsewhere. When put in according to our directions it is just as good and lasting a job as if a plumber wiped the joint.



L-495

To connect lead to iron.



L-496

To connect lead to lead.

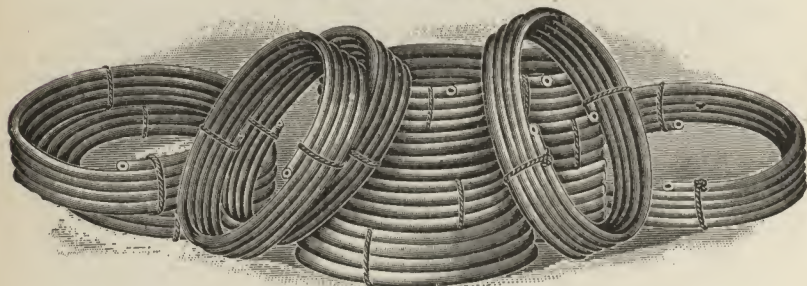
Size	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.
L-495 and L-496. Price each.....	\$1.20	\$1.50	\$2.00	\$2.40	\$2.90

When you buy from us you get high-class goods, absolute satisfaction and unlimited service.

CAPACITIES OF PIPES

Size of pipe.	Contains gallons per foot	Size of pipe.	Contains gallons per foot
1/2 in.....	.01	3 in.....	.367
3/4 in.....	.02	3 1/2 in.....	.6
1 in.....	.04	4 in.....	.652
1 1/4 in.....	.063	4 1/2 in.....	.825
1 1/2 in.....	.09	5 in.....	1.02
2 in.....	.163	6 in.....	1.46
2 1/2 in.....	.255		

PURE LEAD PIPE



L-497

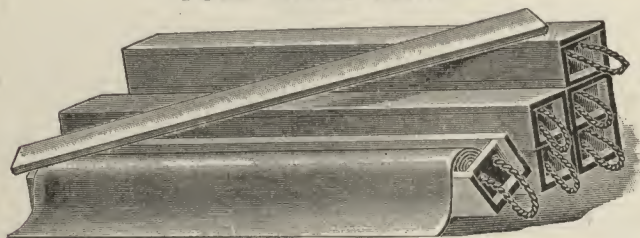
EXTRA STRONG LEAD PIPE FOR WATER SUPPLY

Size, $\frac{3}{8}$ in.	Price per ft.	\$0.46
Size, $\frac{1}{2}$ in.	Price per ft.	.50
Size, $\frac{5}{8}$ in.	Price per ft.	.66
Size, $\frac{3}{4}$ in.	Price per ft.	.70
Size, 1 in.	Price per ft.	.90
Size, $1\frac{1}{4}$ in.	Price per ft.	1.10
Size, $1\frac{1}{2}$ in.	Price per ft.	1.35
Size, 2 in.	Price per ft.	1.76

REGULAR LEAD PIPE FOR WASTE

Size, $1\frac{1}{4}$ in.	Price per ft.	\$0.50
Size, $1\frac{1}{2}$ in.	Price per ft.	.66
Size, 2 in.	Price per ft.	.74
Size, 4 in.	Price per ft.	1.20

PURE SHEET LEAD



L-498

1/20 in. thick, regular size to reline tanks, flash roofs, etc.
 Price per sq. ft. \$0.60

Remember, we guarantee satisfaction.

PURE SOFT LEAD

For calking. Furnished in eight-pound blocks.



L-499

L-499. Price per lb. \$0.17

PURE BLOCK TIN

For refining solder, etc. Furnished in one-pound bars.



L-500

L-500. Price per lb. \$1.30

ONE-HALF AND ONE-HALF, OR TINNERS' SOLDER

For use with soldering iron, etc.



L-501

L-501. Price per lb. \$0.84

PLUMBERS' SOLDER

For wiping joints, patching, etc. Furnished in one-pound bars.



L-502

L-502. Price per lb. \$0.60

Remember, we guarantee satisfaction.

LEAD BENDS AND LEAD DRUM TRAPS

Lead bends are furnished in 4 in. only and are used mostly in repair work for connection between closet and stack. Lead drum traps with nickelplated brass, wide flanged covers with or without vent connection, mostly used in repair work.



L-503



L-504

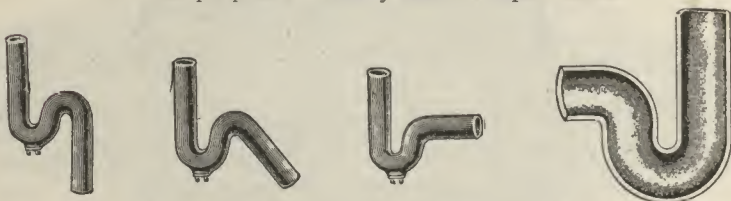


L-505

		Price			Price
L-503.	Length, 12 in.	\$2.70	L-504.	Size, 4x 8 in.	\$3.00
L-503.	Length, 14 in.	3.10	L-504.	Size, 4x 9 in.	3.20
L-503.	Length, 16 in.	3.30	L-504.	Size, 4x10 in.	3.50
L-503.	Length, 18 in.	3.64	L-505.	Size, 4x 8 in.	3.60
L-503.	Length, 20 in.	3.90	L-505.	Size, 4x 9 in.	3.80
			L-505.	Size, 4x10 in.	4.20

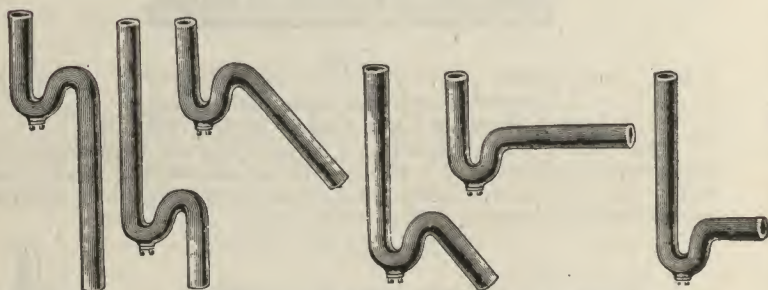
**HARDIN-LAVIN PERFECTLY DRAWN AND FORMED
LEAD TRAPS**

For all purposes. Mostly used in repair work.



	L-506	L-507	L-508	L-509
	Full S regular.	3/4 S regular.	P regular.	4 in. P for hopper closet.
Size	1 1/4 in.	1 1/2 in.	2 in.	
L-506. Price each.....	\$0.92	\$1.40	\$2.20	
L-507. Price each.....	.90	1.30	2.00	
L-508. Price each.....	.90	1.30	2.10	
L-509. Price each, 4 in. only.....	...	...	4.00	

Remember, we guarantee satisfaction.



	L-510	L-511	L-512	L-513	L-514	L-515
	Full S long outlet.	Full S long inlet.	3/4 S long outlet.	3/4 S long inlet.	P long outlet.	P long inlet.
Size	1 1/4 in.	1 1/2 in.	2 in.			
L-510. Price each.....	\$1.50	\$2.20	\$3.20			
L-511. Price each.....	1.50	2.20	3.20			
L-512. Price each.....	1.40	2.00	3.00			
L-513. Price, each.....	1.40	2.00	3.00			
L-514. Price each.....	1.30	1.70	2.50			
L-515. Price each.....	1.30	1.70	2.50			

HARDIN-LAVIN COMBINATION LEAD AND IRON FERRULES TO CONNECT LEAD TRAPS AND BENDS TO SOIL STACKS

All standard sizes and designs. Mostly used in repair work.



L-516



L-517

For 1¼, 1½ and 2 in. traps.

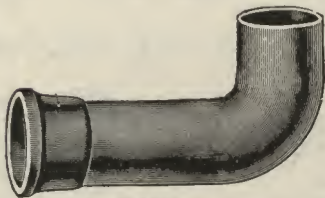
For 4 in. bends or 4 in. traps.

Length	4 in.	6 in.	8 in.	12 in.
L-516. Size 1¼ or 1½ in. lead for 2 in. hub. price each	\$0.50	\$0.70	\$1.00	\$1.60
L-517. Size 4 in. lead for 4 in. hub. Price each	1.00	1.40	1.70	2.40

When you buy from us you get high-class goods, absolute satisfaction and unlimited service.

COMBINATION LEAD AND IRON BENDS AND LEAD AND BRASS COMBINATION SOLDER NIPPLES

Mostly used in repair work.



L-518



L-519

Combination lead bends to connect closet to stack.

Combination solder nipple to connect lead to iron pipe.

Length	12 in.	16 in.	18 in.	20 in.
L-518. Size 4 in. Price each.....	\$3.30	\$3.90	\$4.70	\$4.90
Length	6 in.	8 in.	12 in.	
L-519. Size 1¼ in. Price each.....	\$0.80	\$1.00	\$1.20	
Size 1½ in. Price each.....	1.00	1.20	1.40	

HOW TO HOLD LAG SCREWS IN BRICK WALLS

First, take a drill, or sometimes a piece of small pipe with end notched, and drill about 2 inches into brick. A little larger hole than lag screw. Next, drive into this hole a plug of soft pine; then insert screw and same will hold permanently, or place small strips of lead in opening, which will cause the thread to take hold.

HARDIN-LAVIN RUBBER GOODS—Continued



L-537

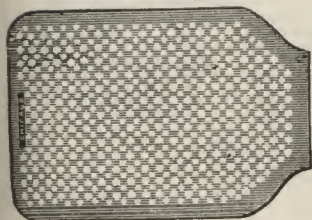
High-grade diaphragm rubber for low damper regulator on steam boiler.

Size	6 in.	7 in.	8 in.	9 in.	10 in.
L-537. Price each	\$1.10	\$1.10	\$1.20	\$1.30	\$1.50
L-538. Price each .....	.90	...	...	...	...



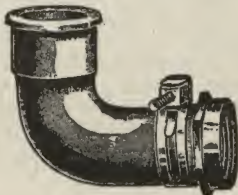
L-538

High-grade plumber's force cup to force out closets, sinks, etc.



L-539

Corrugated rubber sink drain board mat.



L-540

Rubber closet flush ell with brass extension and union.



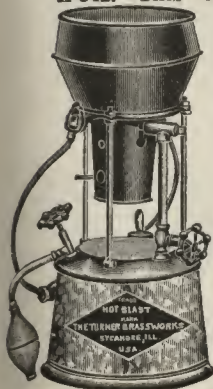
L-541

Long Ideal basin waste plug or washer.

Size	18x24 in.	20x24 in.	Size	1 1/4 in.	1 1/2 in.
L-539. Price each	\$4.90	\$5.50	L-540. Price each	\$0.90	\$1.00
			L-541. Price each	.36	.40

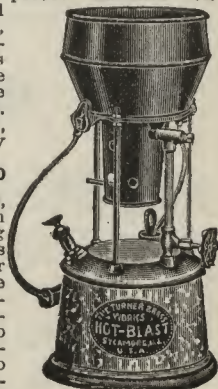
PLUMBERS' GASOLINE FURNACES FITTED WITH NEW-EST DESIGN HOT BLAST REMOVABLE BURNER

L-542. This is absolutely the best medium priced furnace on the market. Has heavy steel body, well galvanized in and out, with large funnel shape non-leaking filler (to refill same). Has newest hot blast removable burner with brass cleanouts. Sure needle valve on supply and pump. Furnished complete with bulb, wind pump and shield. Capacity about 4 qts. Price complete\$7.50



L-542

L-543. Has heavy steel body, well galvanized in and out, with large funnel shape non-leaking filler plug (to refill same). Has newest hot blast removable burner with brass cleanouts. Sure needle valve on supply. Has newest vertical pump in body with automatic check valve. This pump with ordinary care will last a lifetime and can be easily removed to repair. This is the best and highest-grade furnace on the market. Furnished complete with shield. Price\$8.00



L-543

HEAVY BRASS MODERN DESIGNED GASOLINE TORCHES



L-544

L-544. Hot blast heavy brass torch fitted with newest design hot blast removable burner with needle valve. Has new automatic pump in handle with automatic check valve. Both can be easily removed to repair. Capacity one quart. Furnished complete with soldering iron holder attachment on burner.

Price, complete.....\$5.90

L-545. Hot blast heavy brass torch fitted with newest design hot blast removable burner with needle valve. New designed vertical pump in body with automatic check valve. This pump with ordinary care will last a lifetime. Can easily be removed to repair same. Capacity one quart. Furnished complete with removable soldering iron holder attachment on burner.

Price, complete.....\$6.50



L-545

PLUMBERS' TOOLS All Standard Designs and Sizes



L-546

Plumber's tool bag with leather bottom.

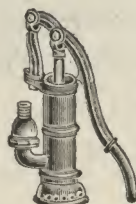
L-546. Price, each.\$6.30



L-547

Large $1\frac{1}{4} \times 5$ plumber's candle. Will make solder stick to lead or brass.

L-547. Price, each.\$0.08



L-548

Brass plumber's force pump to pump out and clear water supplies, etc.

L-548. Price, each.\$13.00



L-549

Cast iron lead or solder pot for furnace.

L-549. Price, each.\$0.50

/Size

L-552.....\$0.20



L-550

Ladle for pouring lead, solder, etc.

L-550. Price, each.\$0.40



L-551

Turn pin to expand ends of lead pipe.

L-551. Price, each.\$0.40

$1\frac{1}{4}$ in.

$1\frac{1}{2}$ in.

\$0.30

\$0.40



L-552

Drift plug to drive through lead pipe to remove pipe kinks.

L-552. Price, each.\$0.40

$1\frac{1}{4}$ in.

$1\frac{1}{2}$ in.

\$0.30

\$0.40



L-553

Regular calking iron to calk lead joints in soil pipe.

L-553. Price, each.\$0.50



L-554

Special calking iron to calk narrow or deep joints in soil pipe.

L-554. Price, each.\$0.50



L-555

Yarning or packing iron to pack oakum in soil pipe.

L-555. Price, each.\$0.50

PLUMBERS' TOOLS—Continued

REMEMBER, OUR TOOLS ARE ALL OF STANDARD DESIGN



L-556

Plumber's rasp or file.

L-556. Price each.....\$1.00



L-557

Adjustable hack saw.

L-557. Price each.....\$2.50



L-558

Shave hook to shave or cleave hook.

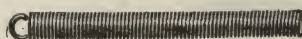
L-558. Price each.....\$0.48



L-559

Tap borer to clean and spread lead pipe.

L-559. Price each......48



L-560

Spring to bend lead pipe.

L-560. Price each......80



L-561

Reinforced dipper to clean catch basin and cesspools.

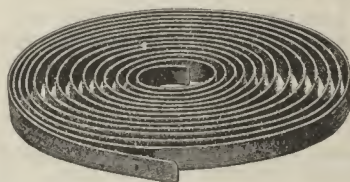
L-561. Price each.....\$3.90



L-562

1½ lb. solder copper.

L-562. Price each.....1.90



L-563

1½ in. guaranteed spring steel sewer rods to clean sewer. Furnished in 50, 75 and 100 ft. lengths.

L-563. Price each, per foot......16



L-564

Best quality wiping cloth.

Size	1½x2½	2½x2½	3x3
L-564. Price each.....	\$0.20	\$0.24	\$0.30
L-565. Price each.....	3.10	....	....



L-565

Hardin patented wrench to grip nickel-plated brass pipe.



L-5

HARDIN-LAVIN LIFT AND FORCE PUMP

L-566. It is a known fact that three-fourths of the plumbing trouble is caused by waste and sewerage stoppage. With this Hardin pump you can force any waste pipe. It is invaluable to force or suck out any obstruction in toilet bowls. Every home should have one.

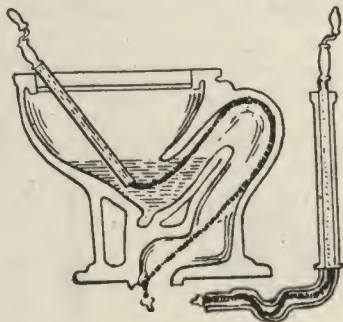
Price, complete with all attachments.....\$5.60

When you buy from us, you get highclass goods, absolute satisfaction and unlimited service.

HARDIN CLOSET BOWL AND WASTE SNAKE CLEANER

L-567. This is a very necessary apparatus for every home, as in nine cases out of ten you can remove any obstruction in closet bowl without removing bowl. It is also valuable to clean out traps and wastes. It is very pliant and can pass any bend.

Price, complete.....\$7.00



L-567

HOW TO MARK TOOLS

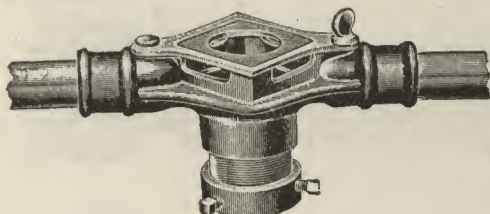
Mix $\frac{1}{2}$ ounce of nitric acid with one ounce of muriatic acid, keeping same in stone jar. Cover up the tool that you wish marked with a thin layer of soap. Write your name with a file or awl, covering same with this solution. Leave for 15 minutes and when washed off, the name will have been eaten perfectly into tool.

HOW TO WIPE OR PATCH LEAD PIPE WITH A PLUMBER'S TORCH

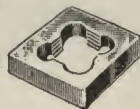
First, close with a hammer very carefully, then shave off well part that you intend to patch. Next, apply tallow or rosin. Then turn on flame of torch on the lead pipe until it gets very hot, but be careful not to burn same. Melt part of a bar of solder, letting it drop onto wiping cloth. When you have sufficient to make the patch, drop it onto where you are making the repair. Then turn on flame of torch until solder begins to slightly run. Reheat as you find necessary. Wipe off top and edges of entire patch. Then tap patch all over with wiping cloth. This will make a very good and durable patched joint.

HARDIN PATTERN CRANE STOCKS AND DIES

It is a known fact that the Crane Company's stocks and dies are the best, medium priced outfits on the market and have patented set screw starting attachments that any boy can easily start a thread.



L-568
Stocks.

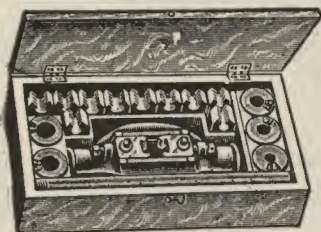


L-569
Die.



L-570
Bushing.

- L-568.** No. 1 set furnished complete with $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 in. dies and bushings complete in box.
Price complete\$ 7.50
- L-568.** No. 2 set furnished complete with 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 in. dies and bushings complete in box.
Price complete 10.00
- L-569.** Price of dies for No. 1 stocks, each..... 1.00
- L-569.** Price of dies for No. 2 stocks, each..... 2.30
- L-570.** Price of bushing for No. 1 stocks, each..... .30
- L-570.** Price of bushing for No. 2 stocks, each..... .50



L-571

Hardin Armstrong pattern stocks, dies and bushings.



L-572

Saunter adjustable pipe cutter.



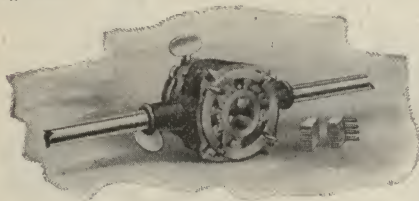
L-573

Barns 3-wheel pipe cutter.

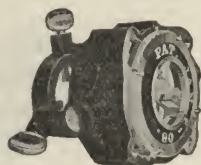
- L-571.** No. 1 stock with $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 in. dies and bushings complete in box. Price complete.....\$ 6.70
- L-571.** No. 2 stock with $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 in. dies and bushings complete in box. Price complete..... 11.00
- L-572.** No. 1 cuts pipe from $\frac{1}{8}$ in. to $1\frac{1}{4}$ in. Price each.... 2.00
- L-572.** No. 2 cuts pipe from $\frac{1}{2}$ in. to 2 in. Price each.... 2.70
- L-573.** Three-wheel cutter is used where there is not room to turn cutter around pipe. $\frac{1}{3}$ turn cuts the pipe. Cuts pipe $\frac{1}{2}$ to 2 in. Price each..... 3.00

GENUINE TOLEDO ADJUSTABLE STOCK AND DIES

It is a known fact that the Toledo stocks and dies are the easiest cutting, longest lasting and best adjustable stocks on the market.



L-574



L-575

L-574. No. 0 complete, threads $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 in. Price complete. \$20.00

L-575. No. 10 complete, threads $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 in.

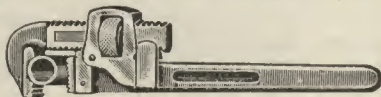
Price complete 35.50

GENUINE STILLSON AND TRIMO PIPE WRENCHES

Ask any plumber or steamfitter and he will tell you a genuine Stillson or Trimo wrench will outlast any two imitation wrenches.



L-576



L-577

Size 6 8 10 12 14 18 24 36

L-576, L-577. Price each. \$1.20 \$1.30 \$1.40 \$1.70 \$1.90 \$2.60 \$3.80 \$7.20

Our unlimited service and high-class goods give you absolute satisfaction.

GENUINE CRANE PIPE TAPS AND REAMERS

Tap



L-578

Reamer



L-579

Size $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2 in.

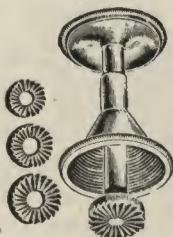
L-578. Price each. \$0.60 \$0.64 \$0.76 \$0.92 \$1.26 \$1.56 \$1.88 \$2.32 \$3.12

L-579.



L-580

Hardin genuine malleable automatic pipe vise with latch.



L-581

Hardin valve reseating tool. Will regrind any valve seat, ball cock, etc.



L-582

Radiator valve wrench. Will fit any size valve. Used to screw valve spud in radiator.

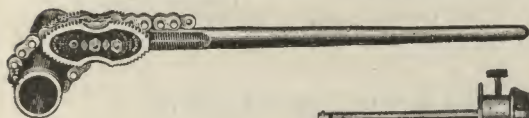


L-583

Pipe reamer to ream ends of pipe.

L-580.	No. 1 holds pipe up to 2 in.	Price each.....	\$ 2.30
L-580.	No. 2 holds pipe up to 3 in.	Price each.....	4.40
L-581.	Complete with four grinding discs.	Price.....	3.00
L-582.	Price each		1.90
L-583.	Price each		10.50

REMEMBER, WE GUARANTEE SATISFACTION



L-584

Hardin double end pipe tongs is the surest and best on the market. Both ends can be used.



L-585

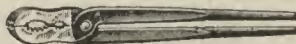
Gauge glass cutter to cut gauge glass for boilers or expansion tanks.

Size	36 in.	50 in.
L-584. Price each	\$9.00	\$14.50
L-585. Price each	\$1.50	...



L-586

Plumber's Hammer.



L-587

Plumber's 12 Plyer.



L-588

Plumber's 6 Plyer.

L-586.	Price each.....	\$0.90
L-587.	Price each.....	1.20
L-588.	Price each.....	1.00



WHAT OUR PATRONS SAY

Du Bois, Pa., Nov. 7, 1920.

Hardin-Lavin Co., Chicago, Ill.

Dear Sirs: I have my heating plant installed, and it is giving satisfactory results and can only give you my warmest praise for it.

Yours respectfully,
P. Tantlinger.

Richmond, Ind., June 13, 1921.

Hardin-Lavin Co., Chicago, Ill.

Gentlemen: In business and out of business, if it comes to me, I will surely remember Hardin-Lavin Co. I am for you—when not, I will advise

S. O. Yates.

Elizabethtown, N. Y., June 13, 1921.

Hardin-Lavin Co., Chicago, Ill.

Gentlemen: Thanks for the High Grade plumbing furnished me. I am perfectly satisfied with my purchase from your firm. If this communication will be of any benefit, use it.

Howard Meinel.

Elizabeth, N. J., May 10, 1921.

Hardin-Lavin Co., Chicago, Ill.

Gentlemen: I am more than pleased and I must say it is a pleasure to put in such nice material—and so easy. Very truly yours,
F. M. Haas.

Riverdale, Ill., Dec. 13, 1920.

To Whom It May Concern: If you want a **real** Hot Water Heating plant—a genuine, high-grade, efficient, coal-saving plant—go to Hardin-Lavin Co. Very truly yours,

O. Obeldobel.

Winter Park, Fla., Nov. 1, 1920.

Hardin-Lavin Co., Chicago, Ill.

Gentlemen: I tested the pipeless furnace out—worked like a charm, heated 8 large rooms in a half hour. No dust, no smoke—just a balmy, gentle heat like our Florida sunshine. Sincerely,

George Howard.

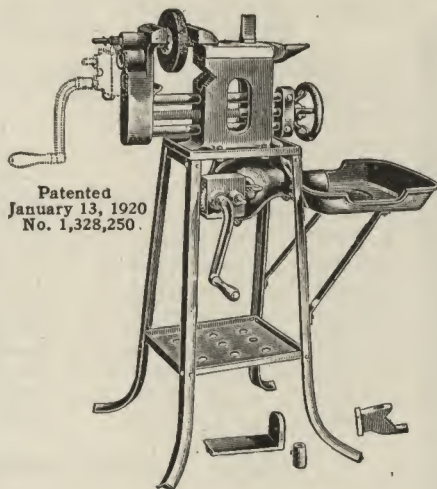
When writing any of our patrons, kindly enclose a stamped envelope for reply.

HOW TO REPAIR FULLER FAUCETS

In case the faucet leaks continually it indicates that the fuller ball is worn out. If the faucet rattles, it indicates that the fuller ball is partly worn or packing around fuller stem is worn. To replace fuller ball, take the faucet apart between the body and spud, by turning to the left. Then remove the old fuller ball and be sure to put back a new one with the round or ball part towards the faucet. Replace fuller cap and fuller nut and suck faucet tight before screwing on. If packing around stem is worn, take off the handle and unscrew packing nut; remove brass or lead ring. Underneath this, you will find felt or handle wick packing. Remove all old packing and repack with candle wicking or soft string, using a little oil. Replace lead or brass ring; screw back packing nut and handle and replace faucet and the job is finished.

HOW TO REPAIR COMPRESSION FAUCETS

Take off handle and unscrew packing nut to the left. Then unscrew stem. On the bottom of same you will find a disc held on with a small screw. Remove this screw and replace with a new disc or handle. Replace packing nut and job is finished.



Patented
January 13, 1920
No. 1,328,250.

L-591½ COMBINATION FORGE MACHINE OUTFIT

This practical combination repair outfit, consisting of Forge, Vise, Anvil, Pipe Vise, Drill Press, Emery Grinder, Cutting Hardie, Joiners Press, Tool Rest, and three speed gear outfit, is a strictly high grade tool combination built for service. This handy outfit can be used for making numberless repairs in or about the house or shop, and will more than pay for itself in a short time.

MACHINE CUT GEARS

All the gears are machine cut. There are three speeds in the Drill Press and grinding wheel—Slow, Medium, and Fast. The blower gear is high speed, silent and noiseless, and will produce a white heat for welding. Emery wheel screws on to threaded control chuck between pipe vice jaws.

MANY USES

Can be used for sharpening tools, machinist work, welding, blacksmithing, pipe fitting, etc. This unique outfit is compact, substantially constructed, and all furnished complete on one substantial base. Height overall—41 in.

L-591½ Combination Forge and Machine Outfit List Price..\$35.00

See Pages 8-130-161.



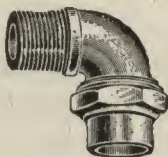
L-592

L-592. GALVANIZED RANGE BOILERS, STANDS AND UNIONS

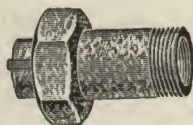
Genuine riveted galv. range boilers, guaranteed to stand 85 lbs. and 150 lbs. working pressure.

Capacity	Size	Price	Price
		85-lb. work. pres. Std.	150-lb. work. pres. Ex. hy.
18 gal.	3 ft. x 12 in.	I11.60	\$15.50
24 gal.	4 ft. x 12 in.	12.60	16.80
30 gal.	5 ft. x 12 in.	15.20	20.30
40 gal.	5 ft. x 14 in.	19.20	25.60
52 gal.	5 ft. x 16 in.	24.80	33.08
66 gal.	5 ft. x 16 in.	30.40	50.80
82 gal.	5 ft. x 20 in.	36.40	60.70
100 gal.	5 ft. x 22 in.	52.80	84.70

GALV. BOILER UNIONS



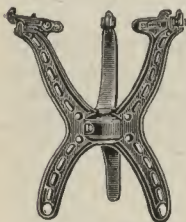
L-593



L-594

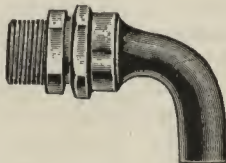
Size 1x $\frac{3}{4}$ in.
L-593, L-694. Price each.....\$0.58

BOILER STANDS



L-595

BRASS BOILER UNIONS



L-596



L-597

L-595. For 18, 24, 30 gal. boilers. Price each.....\$0.90
L-595. For 40 gal. boilers. Price each..... 1.00
L-595. For 52 gal. boilers. Price each..... 1.30
L-595. For 66 gal. boilers. Price each..... 1.90
L-595. For 82 gal. boilers. Price each..... 2.00
L-595. For 100 gal. boilers. Price each..... 2.90
L-596 and L-597. Size 1x $\frac{3}{4}$ in. Price each..... 1.30



L-598

L-598. HARDIN-LAVIN PEERLESS COMBINED RANGE BOILER AND GAS WATER HEATER FOR NATURAL OR ARTIFICIAL GAS

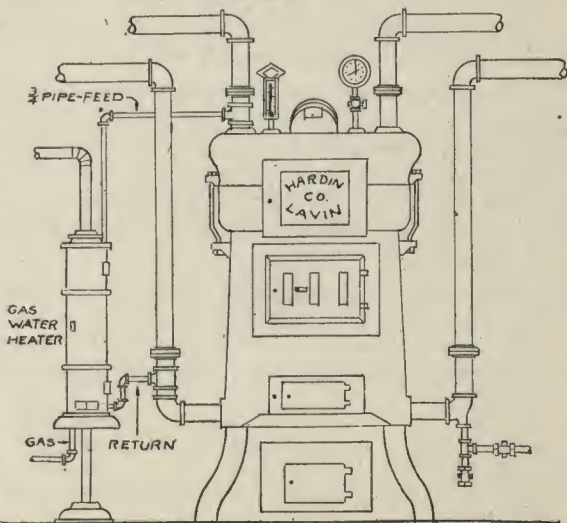
Several years of practical operation has proved that this gas heater and hot water boiler will burn less gas for the amount of water it heats than any other heater manufactured. The gas heater is built of new designed circulating coils on the inside of the tank and extends from top to bottom. Consequently, every unit of heat is absorbed by the water. Has our newest drilled gas burner and disc deflector. Can be connected to furnace and kitchen range. Positively 98 per cent of the heat generated goes directly into the water. Complete as shown.

Size 30 gal., 12 in. x 5 ft. Price each.....\$41.40

Size 40 gal., 14 in. x 5 ft. Price each..... 48.70

GAS WATER HEATER USED IN PLACE OF HOT WATER BOILER

By connecting a gas water heater to the principal main and return circuit of your hot water heating system, plant can be used in mild weather without using the boiler. While this method will not circulate the entire hot water system, it will furnish plenty of heat to all radiators connected to this circuit of system. The water in boiler will not be heated or disturbed. It is surprising how little gas this method will consume.



L-600 NEW IMPROVED GAS WATER HEATER



Cast Iron Body with Large Door

A high grade, low priced heater of heavy, durable construction. The coil is made of the best grade of heavy lake copper and contains more and heavier tubing than is found in other heaters of its size. The built-in heat deflector in coil prevents waste of heat, giving maximum heating efficiency.

The jacket is cast iron, fire japan finish. The door is large, and opens full length of jacket, permitting easy cleaning. Union connections are heavy brass. The burner is of special whirling type, built with improved design mixer, giving perfect combustion. For compactness of design and simplicity, this type of heater is far superior to any other medium priced heater made.

No.	Htg. Cap.	Ship Wgt.	List Price
L-600 No. 6	24 Gal.	38 lbs.	\$15.00
L-600 No. 7	30 Gal.	30 lbs.	\$18.00

L-601 NEW DOUBLE COIL GAS WATER HEATER

Cast Iron Body with Large Door

This larger double coil heater has been designed to meet the most exacting requirements. The double coils are made of the best grade of heavy seamless lake copper tubing. Built-in baffle plate distributes heat, insuring maximum heating efficiency.

The jacket is all cast iron construction and fits about the heater compactly. The improved burner with special designed mixing valve insures perfect combustion. The gravity hinged door is half the jacket, and makes the heater easily accessible. All connections are heavy brass, and solidly brazed, insuring lasting durability.

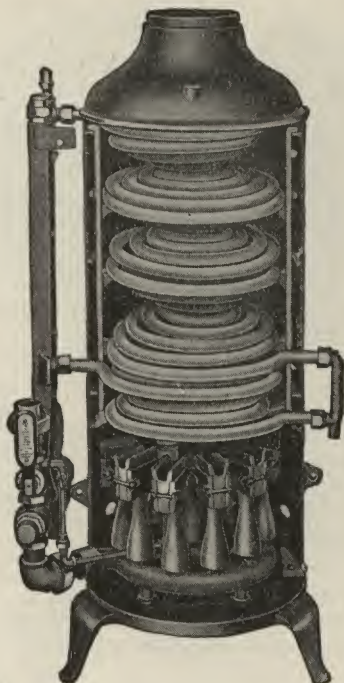
The simplicity of this heater makes it very popular. There are few working parts, and where properly installed and used according to the simple directions, it will give universal service and satisfaction without repairs.

No.	Htg. Cap.	Ship Wgt.	List Price
L-601 No. 25	30 Gal.	35 lbs.	\$20.00
L-601 No. 26	40 Gal.	48 lbs.	\$25.00

Our improved method and co-operative helpful service helps you install.

See pages 8, 130, 161.





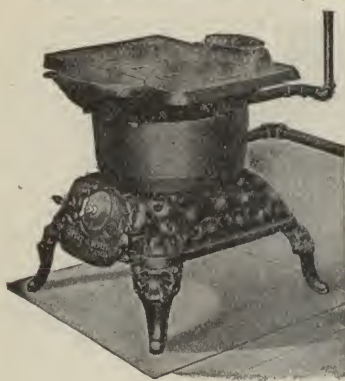
HARDIN-LAVIN SANDS IMPROVED 1922 INSTANTANEOUS AUTOMATIC GAS WATER HEATER

L-602B. There has been a great demand in particular by the home owners for an instantaneous gas water heater that will work automatically, and the Hardin-Lavin Sands meets the requirements in every respect. To begin with, there is no hot water storage tank required. There is no heating of water only when it is being used. In other words, this heater automatically heats the water instantaneously whenever any hot water faucets are opened. It is so constructed that when the hot water faucets are opened in any part of the house, it starts the heater instantly and you get boiling hot water in two or three seconds and when you close the faucets, immediately the hot water heater automatically shuts off. The result is that you are not paying gas bills to heat water when the water is not being used.

Installing plans with each heater so that any handy man can put it in.

No.	Cap. Gal. Per Min.	Height	List Price
2½	2½	38"	\$110.00
3	3	43"	140.00
4	4	45"	160.00

See pages 8, 130, 161, 232.



L-603

**L-603. HARDIN-LAVIN CAST
IRON TANK AND LAUN-
DRY HEATER**

This heater burns any kind of coal or wood and is very handy, as it not only heats water, but it can also be used for boiling clothes and heating irons, etc. Fitted with our new Hardin-Lavin shaking grate. Will heat up to a 60 gallon tank.

Price complete.....\$19.80

**L-604. HARDIN-LAVIN CAST IRON HOT
WATER HEATER**

This is a very serviceable hot water heater and will burn hard or soft coal and give excellent service. We recommend this heater in homes where there is considerable hot water used. Fitted with our new patented Hardin-Lavin shaking grate. We furnish this in three sizes.

No. 1 heats 80, 150 gallons. Price each. \$ 35.00

No. 2 heats 150, 275 gallons. Price each. 51.66

No. 3 heats 275, 475 gallons. Price each. 105.20



L-604

HOW TO WIPE A JOINT

To begin with, it takes weeks and months of practice, and for a beginner, it is advisable to take a piece of $\frac{5}{8}$ -inch lead water pipe about 2 feet long. Then, in the middle of this, shave off a strip about $2\frac{1}{2}$ in. around same. Next apply plumber's candle or rosin on the part that is shaved. Put paper all around pipe on each side, leaving only shaved part exposed. Sometimes, shoe blackening or plumber's paste is used, but paper is best for the beginner. This will prevent solder from sticking on the edges of joint. Pour on solder (which must not be too hot) up and down about one foot of pipe until it gets very hot and solder will drop off. Now, you know that you have the proper heat. Next, hold wiping cloth underneath joint and pour sufficient solder to make joint. In wiping, always move bottom of the joint to the top with cloth. Trim off edges of joint before you finish the body. After you have practiced several times, it is advisable to watch a good plumber wipe a joint and get some pointers from him, which will help you the next time you practice.



L-605½ NEW TANKLESS WATER SUPPLY SYSTEM

This unit pumps water from well or cisterns up to 20 ft. deep. Water is piped directly from pump to faucet. No tank is required. It automatically furnishes FRESH running water at every faucet. You don't have to start and stop the pump--automatic controller does that.

MECHANICALLY PERFECT

Years of pump building experience is your guarantee of satisfaction. Piston is ½" solid brass, driven by ball and socket eccentric connecting rod on ball bearing guide, insuring quietness in operation. Idler prevents belt slippage. Valves are instantly accessible for cleaning. No parts to wear out. Built to give lasting service.

SPECIFICATIONS IN DETAIL

¼ H. P. Westinghouse Motor.
Bronze Diaphragm Controller.
Pump capacity, 6 gallons per minute.
Frictionless Connecting Rod Bearing.

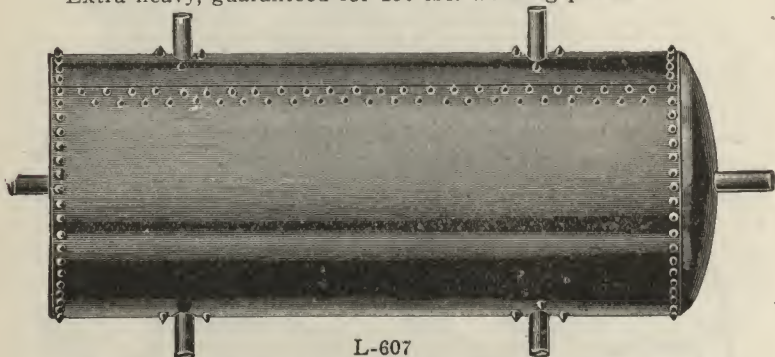
Belt Idler.
Self-timed.
1¼-in. Suction.
1¼-in. Discharge.

NOTE:—Be sure to state kind of current motor is wanted for.
L-605½ AUTOMATIC TANKLESS WATER SYSTEM—List Price.....\$165.00

See page 8 concerning our responsibility, or ask your own bank.

HIGHEST GRADE RIVETED AND WELDED STORAGE TANKS

Regular, guaranteed for 85 lbs. working pressure.
Extra heavy, guaranteed for 150 lbs. working pressure.



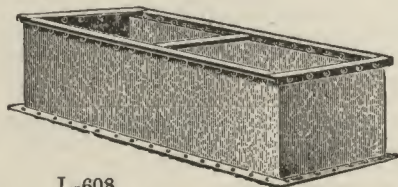
L-607

L-607. Hardin-Lavin hot water storage tank, tapped one opening on each end and two openings on top and bottom (six in all). Reinforced at each tapping as shown. Made from the highest grade, evenly rolled steel.

Capacity, Gal.	Diam., Inches	Length Feet	Tappings	Price Each, Regular	Price Each, Extra Heavy
120	24	5	1½	\$51.00	\$61.20
140	24	6	1½	55.10	66.50
180	30	5	2	62.50	71.40
220	30	6	2	57.30	79.80
250	30	7	2	73.40	87.80
295	30	8	2	79.60	95.90
315	36	6	2	83.70	110.50
365	36	7	2	93.20	120.50
420	36	8	2	102.00	131.00
500	42	7	2	117.30	143.00
720	42	10	2	145.00	177.50
1,000	42	14	2	181.00	230.00

HEAVY REINFORCED WELL GALVANIZED OPEN STORAGE TANKS

To be used in attic or elsewhere for open or gravity water systems.



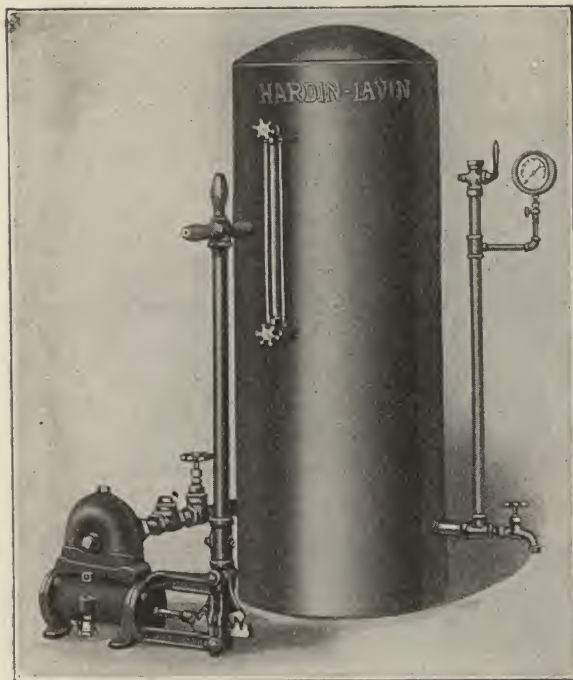
L-608

Width	Height	Length	Capacity	Price
2 ft.	2 ft.	4 ft.	4½ bbls.	\$12.60
2½ ft.	2 ft.	8 ft.	11 bbls.	22.40
3 ft.	3 ft.	10 ft.	24 bbls.	37.10

HARDIN-LAVIN IMPROVED WATER SUPPLY SYSTEMS

We have perfected our systems from years of scientific and practical tests. Our Tanks are well made and heavy, from best grade of rolled steel (very important) and tested under high pressure. We do not advise galvanizing, for this will not add enough additional life to the tank to offset the cost. We are leaders in these products. Let us help you select the best system to meet your wants.

L-609 HAND OPERATED WATER SUPPLY SYSTEMS FOR SHALLOW WELLS



This ratchet gear drive, sturdy, simple system is the most practical outfit that experience can produce. Our advanced double acting pump works with ease as we have reduced friction to the minimum. It has our new sound deadening half-circle air chamber with four perfectly balanced long guide valves that can be cleaned by removing one bolt on chamber. Cylinder is brass lined with automatic air intake. Pump is easily packed. Suction and discharge are $1\frac{1}{4}$ in. and can be taken from either side. Tank is our specially built heavy pneumatic design. Furnished complete with all fittings, pipe cut to fit,

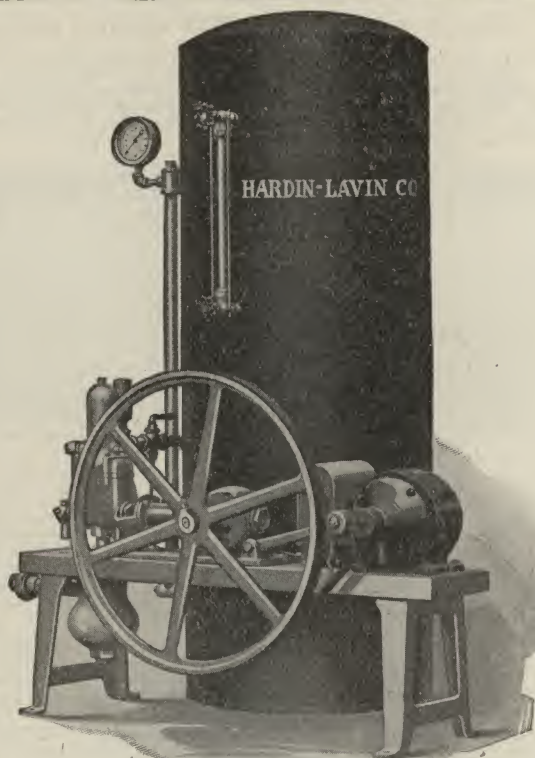
gate valve, gauge, lever handle stop, water gauge, stop cock, etc.

For installing instructions, see pages 93-F and 270.

System should not be used where water in well is below 22 feet, and the horizontal suction should not exceed 100 feet for best results.

List prices of outfits as shown and described:

Complete with 22"x5' vert. tank, cap. 100 gals.....	\$ 82.00
Complete with 30"x5' vert. tank, cap. 180 gals.....	118.00
Complete with 36"x5' vert. tank, cap. 265 gals.....	138.00
Complete with 30"x8' hor. tank, cap. 295-gals.....	178.00
List price of hand pump.....	15.00



L-611. AUTOMATIC ELECTRIC WATER SUPPLY SYSTEMS FOR SHALLOW WELLS

This complete automatic water supply system is the most modern outfit that mechanical skill can produce. The automatic electrical controlling device keeps the proper amount of water pressure in the system at all times, without any attention whatever.

The complete pumping unit, together with the electric motor and controller, are all mounted on substantial cast iron base, which places the entire working apparatus above the floor. The tank is heavy and substantially made, thoroughly tested out under high pressure before leaving factory and will give years of practical use. We furnish system with horizontal or vertical tank. State which is wanted.

OUTFIT IS PRACTICALLY NOISELESS

This finished piece of workmanship has brass lined cylinder and all working parts enclosed in dust-proof case, operating in oil bath, eliminating friction, dirt and noise. We have placed a large air chamber on both suction and discharge pipes, which prevents friction and eliminates pulsation of the pump. Our flexible belt, with tension idler, insures the best silent power being transmitted to the pump.

NEEDS VERY LITTLE ATTENTION

Our automatic air intake valve on cylinder supplies sufficient air to pressure system. A small quantity of oil placed in crank case about twice a year eliminates further attention to the outfit. This easy running pump permits the use of our medium speed motor, thereby reducing the operating cost.

MOTOR IS ENCLOSED TYPE

Parts protected from dirt with high starting torque and low current consumption, requiring practically no attention whatever.

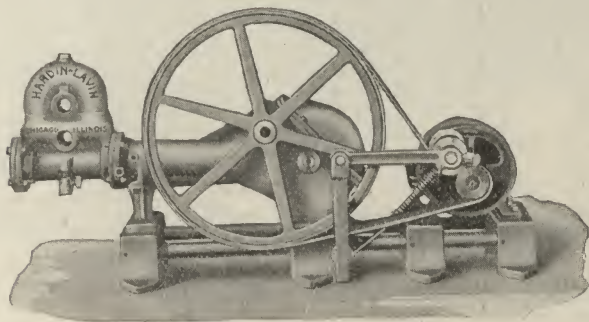
OUTFIT PRACTICAL IN EVERY WAY

This complete outfit is the most practical water supply system for **HIGH CLASS HOMES, LARGE FARMS**, etc., and should not be used where vertical suction distance is more than 22 feet and horizontal distance should not exceed 100 feet for best results. In ordering, it is necessary to state whether vertical or horizontal tank is wanted. Also state voltage, whether current is direct or alternating; if alternating, whether 1, 2 or 3 phases and number of cycles. Furnished complete with necessary pipe, fittings, automatic safety valve, lever handle stop, gate valve, check valve, unions, pressure gauge, etc., as shown.

For installing instructions, see page 142.

List prices of outfits as shown and described:

Complete with 22"x 5' vert. tank, cap. 100 gals.....	\$169.00
Complete with 24"x 5' vert. tank, cap. 120 gals.....	180.00
Complete with 30"x 5' vert. tank, cap. 180 gals.....	204.00
Complete with 36"x 5' vert. tank, cap. 265 gals.....	218.00
Complete with 30"x 8' hor. tank, cap. 295 gals.....	262.00
Complete with 36"x10' hor. tank, cap. 525 gals.....	339.00



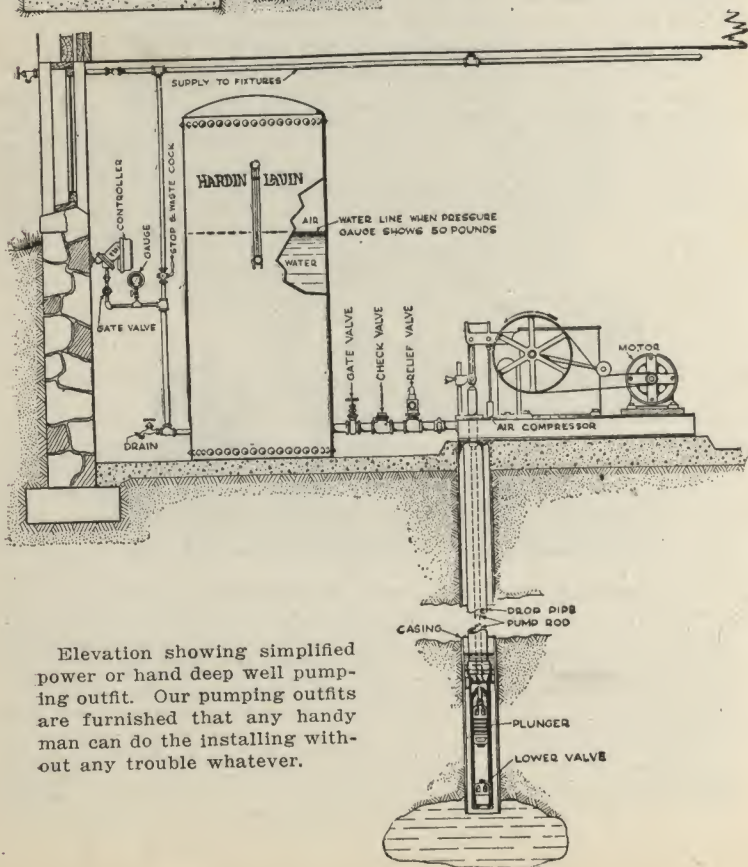
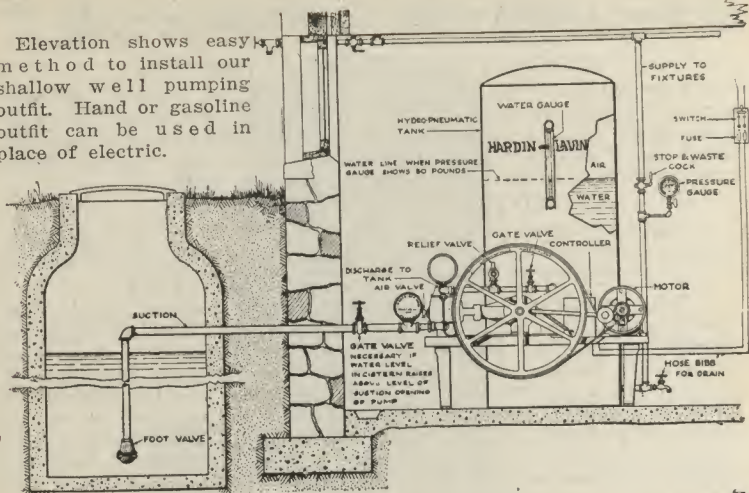
L-611 H ELECTRIC MOTOR PUMPING OUTFIT

Improved electric motor and pump are mounted on substantial adjustable iron pedestal base. Pump has 2½-inch brass-lined cylinder and will pump against 50 to 75 pounds pressure. Pump has accessible valves and automatic air intake. All working parts operate in oil-tight case. Has new automatic belt tightener. This complete apparatus is one of the most practical and quiet running, long-lasting pumping outfits manufactured.

List price complete as shown and described with ½ h. p. motor, capacity 360 gals. per hour.....	\$200.00
With ½ h. p. motor, 480 gals. per hour.....	250.00

Larger sizes on application.

Elevation shows easy method to install our shallow well pumping outfit. Hand or gasoline outfit can be used in place of electric.



Elevation showing simplified power or hand deep well pumping outfit. Our pumping outfits are furnished that any handy man can do the installing without any trouble whatever.



L-611-C

L-611-C. AUTOMATIC ELECTRIC WATER SUPPLY SYSTEM FOR DEEP WELLS

This compact type of water supply system has been worked out so thoroughly that we are able to put into use a principle of operation altogether new by reducing the number of working parts to a minimum, which permits our concentrating and placing all driving mechanism on one substantial channel base, eliminating wear and tear and securing increased silent efficiency. Specially built powerful encased armor dustproof type of motor is self-contained complete with idler attachment and substantial base mountings.

SIMPLIFIED CONSTRUCTION ELIMINATES ATTENTION

This new anti-friction deep well pump has a six-inch stroke and is equipped with steel cased brass lined cylinder and solid plunger with crank accurately ground and finished and individual air pump automatically supplying sufficient air to the system at all times. All bearings and gears are enclosed in oil-tight case, insuring safety and doing away with sticking of gears and burning out of motor. Pinions are specially treated carbon steel of great wear resisting qualities. All parts are machine cut, tested for accuracy and are quiet and smooth running, being at all times immersed in an oil bath. Special sleeve on crank pin forms roller bearing between this and bell crank. (Over.)

EFFICIENCY WITH LOW OPERATING COST

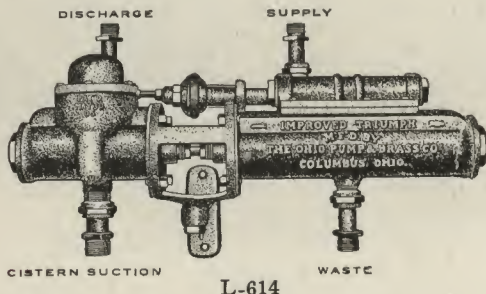
The cost of electric current for operating this deep well system is approximately $7\frac{1}{2}$ cents per 1,000 gallons of water pumped. The automatic controller to cut in and out at any set predetermined pressure, together with our simplified time-tried improvements, makes this entirely automatic in operation in every way. Page 142 shows a typical deep well installation. Give current.

ALL PARTS FIT ACCURATELY

The tank is heavy, first quality, well made for horizontal or vertical outfits. The entire system is furnished complete with all valves, gauges, automatic controller, automatic relief safety valve, necessary piping and all other parts complete in every respect as shown and described. This water supply system conservatively estimated is the best deep well outfit and has been simplified 50 per cent over the ordinary assembled outfits. Pump rod and drop pipe requirements priced according to depth of well on application.

List prices of outfits as shown and described.

Complete with 30"x6' vertical tank, capacity 220 gallons.....\$395.00
 Complete with 30"x10' horizontal tank, capacity 365 gallons,.... 528.00



HARDIN-LAVIN WATER MOTOR PUMP OR LIFT

This water motor pump is for use in localities where city water is unfit for domestic use, and where soft water is used in bathroom and kitchen. They are operated by city or tank supply which acts as a motor power pumping soft water directly into system without mixing. Or a more suitable plan is to have compression tank in basement or same can be connected satisfactorily where there is an open tank in attic. It is automatic in operation. The simplified Hardin-Lavin construction makes repairing easy. It is noiseless in operation.

Furnished with installing instructions and plans. State for which use you want this lift.

List price complete, with automatic device.....\$88.00



L-612. GASOLINE ENGINE DRIVE WATER SUPPLY SYSTEM FOR SHALLOW WELLS

This gasoline engine drive water supply system is the most practical outfit on the market. All working parts are mounted on a substantial iron pedestal base. The gasoline engine is our newest easy starting and quiet running design.

ANY BOY OR WOMAN CAN START IT

It has ample power to do the work with ease and is practically foolproof. Notice how compact the engine and pump are mounted, eliminating long drive belt and noise. Our flexible belt tightener keeps the proper tension on the belt at all times. The pump is our 2½-inch brass lined cylinder and will throw 480 gallons per hour against 75 pounds pressure. Has automatic air intake valve, which keeps the proper amount of air in the system at all times. Pump valves are accessible.

WORKING PARTS OPERATE IN OIL

All working parts operate in oil-tight case. This feature, together with the new construction of the pump and quiet running engine, reduces the noise to the minimum. Our tank is our specially built heavy pneumatic design, either vertical or horizontal. The entire outfit is built for service and it is as nearly automatic as mechanical perfection will produce.

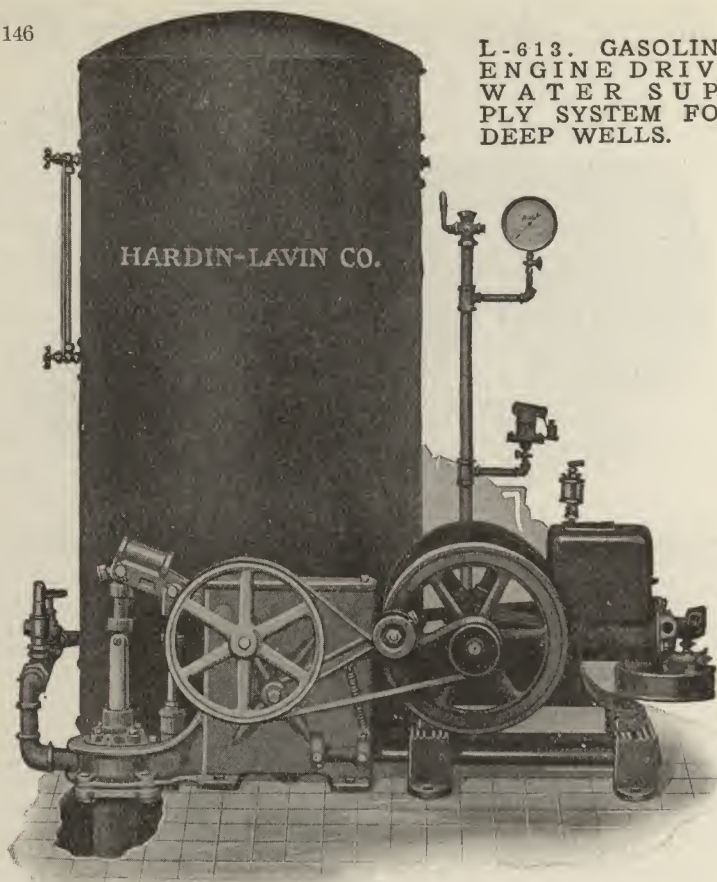
ENGINE IS CONTROLLED AUTOMATICALLY

The gasoline engine is controlled by our automatic stopper, which stops the engine immediately when the necessary amount of water has been pumped. Furnished complete with pipe, all cut to fit, valves, relief safety valve, gauges, stop cocks, etc., as shown.

List prices of outfits as shown and described.

Complete with 30"x 6' vertical tank, capacity 220 gallons.....	\$279.00
Complete with 30"x 8' horizontal tank, capacity 295 gallons....	308.00
Complete with 36"x10' horizontal tank, capacity 420 gallons....	384.00

**L-613. GASOLINE
ENGINE DRIVE
WATER SUP-
PLY SYSTEM FOR
DEEP WELLS.**



L-613

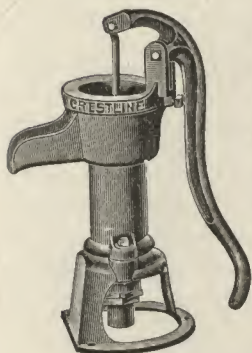
This modern gasoline engine driven deep well pumping outfit is quite similar to our figure L-611-C, shown on page 140, excepting that this iron base is adjustable so engine can be used for other power purposes. All working parts operate in oil, surrounded by dustproof case. Arrangement of outfit is that no unnecessary floor space is required. The true alignment of pulleys is maintained at all times. Another feature is the ease with which all connections and adjustments can be made. The engine is the latest improved and powerful. The tank is our specially built heavy pneumatic design. Entire outfit is as substantially built, as mechanically perfect, simple in construction and silent in operation as can be produced. Outfit is furnished complete with valves, gauges, idler attachment, automatic controller, relief safety valve, air compressor, piping, etc., as shown, cut and fit ready to install. At additional cost we furnish drop pipe and pump rod, according to the depth of water.

To install outfit as an anti-freezing equipment is easy and does not complicate making of repairs. Plunger rod can be withdrawn by removing discharge head.

List prices of outfits as shown and described.

Complete with 30"x5' vertical tank, capacity 180 gallons.....	\$249.00
Complete with 36"x5' vertical tank, capacity 265 gallons.....	277.00
Complete with 36"x6' vertical tank, capacity 315 gallons.....	318.00
Complete with 30"x10' horizontal tank, capacity 365 gallons....	334.00

L-1250 PITCHER SPOUT PUMP



Our heavily constructed Pitcher Spout Pump is especially adapted for shallow wells and cisterns. Can be attached to wood frame at end of kitchen sink or on separate base directly over cistern. Made with 3-inch cylinder tapped for 1¼-inch pipe with either polished iron or brass lined cylinder. Pump is smoothly finished and fitted with the best grade crimped leather cups. A very high-grade and durable pump.

List price complete with polished iron cylinder\$3.60

List price complete with heavy brass lined cylinder 5.25

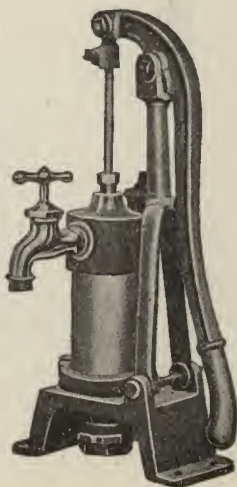
See page 160 for pump accessories.

L-1240 POWERFUL HOUSE FORCE PUMP

The House Force Pump is designed for shallow wells or cisterns 20 feet deep, or less, and is very strong and substantially made. Generally used in the kitchen for soft water or shallow wells. This pump is of a neat and compact design, with long, easy working handle on long fulcrum, making the pumping an easy matter. Pump is tapped for 1-inch back outlet so that water may be forced, to a storage tank on the upper floor or to any point desired. Fitted complete with 3-inch solid brass cylinder and a polished brass compression hose bibb.

Tapped for 1¼-inch suction pipe

List price complete.....\$8.65





L-1208—NON-FREEZING LIFT PUMP

Our Suction Lift Pump is non-freezing and especially designed to give utmost satisfaction where a low-priced Pump that will give long service and stand hard usage is needed. Has a 4-foot set length cylinder to be used for wells not over 30 feet deep. A small hole is drilled just above cylinder to drain pipe and pump, thus making it non-freezing. Fitted with either a 3-inch polished iron or brass lined cylinder tapped for $1\frac{1}{4}$ -inch pipe, into which additional pipe may be screwed according to depth of well. Pump has 6-inch stroke and will give a constant supply of water. Pump is fitted with revolving cap, making adjustment easy to any position, and has an adjustable split base. Pump is complete with cylinder, pump rod and set length piece of pipe.

List price complete with polished iron cylinder	\$ 8.80
List price complete with brass lined cylinder	10.80

See page 160 for pump accessories.

GENERAL PUMP INFORMATION

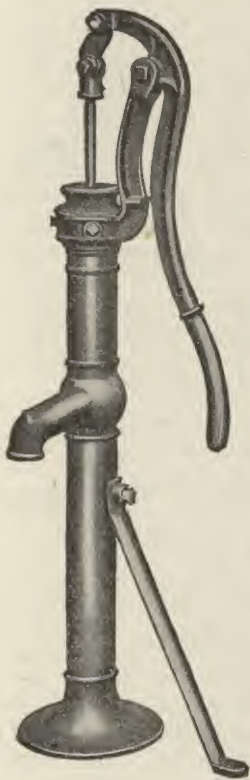
On this and succeeding pages we offer you some general information regarding pumps, their correct usage, and how to order the right one complete. You will not find everything listed in our catalog that you might have occasion to need, but if there is some additional pump accessory or information that you want, do not hesitate to write us. Our Service Department is maintained for that purpose—to give our customers the benefit of our forty-four years' experience in this line of work.

L-1212 HAND LIFT PUMP STANDARD

A low priced pump standard suitable for use in either deep or shallow wells. Made of smoothly finished, painted, cast iron, complete with pump rod and brace. Pump has long heavy handle to make pumping very easy when used for deep wells. This standard can be tapped for $1\frac{1}{4}$ -inch, $1\frac{1}{2}$ -inch or 2-inch pipe. Fitted with a tight revolving top, which avoids any possibility of dirt passing into the pipe or cylinder. A well-made pump standard for general use. Price does not include pipe or cylinder. Specify size tapping when ordering.

List price complete.....\$6.30

See page 160 for pump accessories.



HOW TO ORDER THE RIGHT PUMP

The first thing which we wish to draw to your attention in ordering sufficient additional pipe, pump rod, etc., is that the distance which you must take into consideration is the distance from the pump platform to the water line in the well when it is at its lowest point during the year. Where a set length pump is used, remember that the greatest distance between the cylinder and the water must not be over 25 feet. If the water line is more than 25 feet from the cylinder, it will be necessary for you to lower the cylinder. It is recommended that you lower your cylinder so that it is completely covered up by water, which will always keep the cylinder primed. Place the cylinder below the water line and run the pipe about 8 feet down and attach one of our pipe strainers to keep out the foreign substances.



L-1202 HEAVY NON-FREEZING LIFT PUMP

Our Hand Lift Pump is non-freezing and is designed to meet the requirements for a heavily cast and serviceable pump. Has a 4-foot set length cylinder for wells not over 30 feet deep. Can be equipped with either polished iron or a brass lined cylinder. Pump is fitted with revolving cap making adjustment easy. Has long heavy handle, making hand pumping easy. This pump can be used for deep wells by lowering cylinder. Extension rod and pipe connections can be easily made. Pump complete with 3-inch cylinder tapped $1\frac{1}{4}$ -inch, pump rod and set length piece of galvanized pipe.

List price complete with polished
iron cylinder\$ 9.60

List price complete with brass
lined cylinder 11.70

See page 160 for pump accessories.

DURABILITY IS BUILT INTO OUR PUMPS

You will note that our pumps are equipped with removable guide caps so that they can be removed after long and continuous service has worn them down. The material entering into the manufacture of these pumps is of the very best grade obtainable. They are very nicely finished with a high-grade weather resisting paint and are very attractive in appearance. Every moving part of these pumps is carefully machined at the factory and is designed to reduce wear to a minimum.



L-1225 NON-FREEZING HAND FORCE PUMP

A well-made Hand Force Pump with a 4-foot set length cylinder, tapped $1\frac{1}{4}$ -inch. Has a large air chamber which insures a large steady stream when used with hose for sprinkling or other purposes. Pump has adjustable split base, tight brass stuffing box and brass drip cock. Fitted complete with 3-inch polished iron or brass lined cylinder, tapped for $1\frac{1}{4}$ -inch pipe, galvanized set length pipe, and a $\frac{3}{4}$ -inch hose connection for spout.

List price complete with polished iron cylinder\$11.25

List price complete with brass lined cylinder 13.35

See page 160 for pump accessories.

A PUMP FOR EVERY PURPOSE

The pumps which we list in this catalog cover the entire field, and we believe that you will be able to select the right pump and accessories direct from our catalog, but, as mentioned before, if there is anything you want to know, do not hesitate to ask us. Our Service Department will be very glad to give you any information that will be of aid to you, and remember, this service costs you nothing.



L-1243 HEAVY WORK SET LENGTH LIFT PUMP WITH WINDMILL TOP

This Pump is designed to meet the needs of a heavy, well-made lift pump with windmill top. Fitted with removable guide caps to take up the wear in the heads caused by long and continuous service. Has an adjustable top, long, heavy handle for easy working in deep wells or in shallow wells where a large volume of water is wanted. Made of high-grade cast iron, 10-inch stroke, but are fitted for adjustable stroke, 6, 8 and 10-inch stroke when so ordered. Specify stroke when ordering.

List price complete with 3½-inch polished iron cylinder tapped for 1½-inch pipe... **\$13.80**

List price complete with 4-inch polished iron cylinder tapped for 2-inch pipe..... **15.00**

List price complete with 3½-inch brass lined cylinder tapped for 1½-inch pipe... **15.60**

List price complete with 4-inch brass lined cylinder tapped for 2-inch pipe..... **17.00**

See page 160 for pump accessories.

OUR PUMPS ARE GUARANTEED

In looking over our different pumps, we want you to take into consideration the fact that every pump that we have listed is guaranteed to do the work for which it was built and that it will give you long and lasting service; that our pumps are of the highest quality and that they are reasonably priced. All pumps are made in a modern, up-to-date factory, well equipped with all the necessary machinery, etc., to turn out a large number of quality pumps at a minimum expense.



L-1339 DOUBLE ACTING HAND FORCE PUMP

This is a well-made Double Acting Force Pump designed for use in deep drilled wells where casing comes to level of ground. Will fit into a $3\frac{1}{2}$ -inch well casing. Has a solid brass upper cylinder, adjustable split base, syphon spout and is non-freezing. Its double action insures a steady, continuous and powerful stream. Has 6-inch stroke. Cylinders are flush capped to permit dropping in well casing. If used in open well, regular cylinder can be used. Equipped complete with $\frac{3}{4}$ -inch hose connection and is regularly tapped for $1\frac{1}{4}$ -inch suction pipe.

List price complete with polished iron cylinder, $2\frac{1}{2}$ -inch.....\$13.50

List price complete with polished iron cylinder, 3-inch 13.75

List price complete with brass lined cylinder, $2\frac{1}{2}$ -inch 16.60

List price complete with brass lined cylinder, 3-inch..... 17.50

See page 160 for pump accessories.

REPAIR PARTS

Should it be necessary to secure repairs for any of these pumps, bear in mind that we can furnish them to you at short notice. In ordering repairs, it is necessary to mention the number of the pump you have and also to describe in detail what the part is, and, if possible, send us a sketch of the broken part. In this way we will not make any mistake in sending you the needed repair.





L-1218 DOUBLE ACTING HAND FORCE PUMP

Our Double Acting Force Pump is strong, well-made, of neat design and will throw a strong, even, steady stream. Designed for use in either deep or shallow wells. Has a large air chamber made of $1\frac{1}{4}$ -inch pipe with upper cylinder made of 2-inch seamless brass tubing. Pump has an adjustable base, long easy working handle, and is fitted complete with $\frac{3}{4}$ -inch hose connection. The swivel spout enables you to use pump for right or left hand. This pump has a 6-inch stroke, and is tapped for $1\frac{1}{4}$ -inch suction pipe and 1-inch discharge pipe.

List price complete with 3" Polished
Iron Lower Cylinder.....\$13.75

List price complete with 3" Brass
Lined Lower Cylinder..... 17.50

See page 160 for pump accessories.

INSTALL THE PUMP YOURSELF

Bear in mind that you do not need a pump man to put this pump in for you; you can do it yourself very easily if you will follow the information as given in this catalog. In ordering the pump, be sure to order sufficient additional pipe, pump rod, couplings, and other accessories to complete the pumping outfit so that it can be lowered into the well immediately.

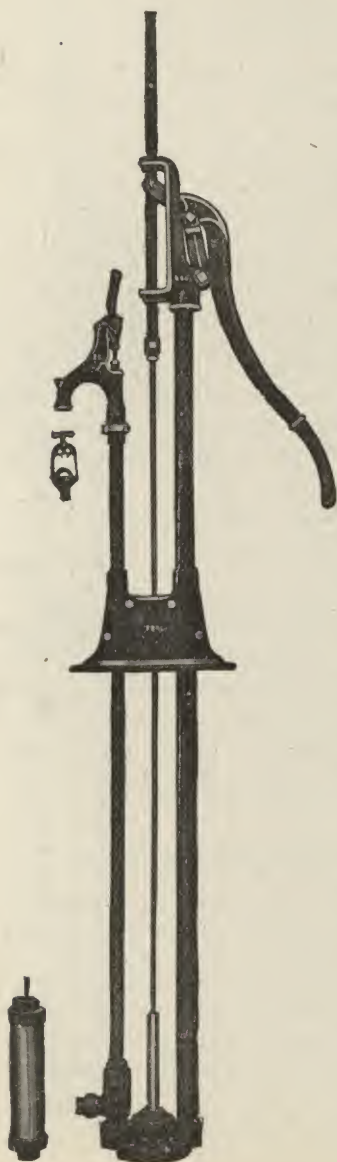
PLATE L-1280 HEAVY TYPE WINDMILL DOUBLE ACT- ING FORCE PUMP

Our heavy type Windmill Double Acting Force Pump is adapted to all kinds of wells, deep or shallow, open or drilled. This pump has a heavy adjustable split base, a raised 3-way discharge valve to supply distant storage tank and has a 1½-inch air barrel and 1-inch discharge pipe. Spout is fitted on with a swivel union. Renewable guide castings in the head takes up the wear of the slide bar. Has a long heavy handle so that pump can be operated by hand if necessary. Three-way valve is operated by a lever handle on the Spout. Furnished with either a 6-inch or adjustable stroke. By loosening the flange bolted to the cylinder casting, which is done by loosening 2 bolts, repairs may be made to the lower cylinder without disturbing any portion of the pump. Pump can be tapped for any size suction pipe and fitted for steel or wood pump rod, but unless ordered otherwise, will be fitted for 1¼-inch suction pipe and steel rod. Price does not include lower cylinder or pipe.

See page 160 for pump accessories.

List price complete with
6-inch stroke.....\$18.00

List price complete with
adjustable stroke 19.60





L-1233 SET LENGTH FORCE PUMP WINDMILL TOP

Our Windmill Force Pump with set length cylinder is especially designed for deep or shallow wells. On account of its great strength and heavily made long handle it can be easily operated by hand. Has a solid steel slide bar and piston welded together in one piece, working thru a brass stuffing box nut. The swivel head is attached to the standard with hook bolts for convenience in repairing, and pump has large air chamber and is fitted with a $\frac{3}{4}$ -inch hose connection. This pump is suitable to be operated by a gasoline engine by using a pump jack. Will deliver a large volume of water. Regularly furnished with 6-inch stroke. Add \$1.50 for 10-inch or adjustable stroke.

List price complete with $3\frac{1}{2}$ -inch polished iron cylinder tapped for $1\frac{1}{2}$ -inch pipe \$16.20

List price complete with 4-inch polished iron cylinder tapped for 2-inch pipe.... 17.40

List price complete with $3\frac{1}{2}$ -inch brass lined cylinder tapped for $1\frac{1}{2}$ -inch pipe. 18.35

List price complete with 4-inch brass lined cylinder tapped for 2-inch pipe... 19.80

See page 160 for pump accessories.

ASK OUR PUMP EXPERTS

If you do not know exactly what pump will be best suited for your particular needs, just describe what kind of well or cistern you have, its depth and the distance from the ground to the water, and whether it is an open or casing well, and we shall be very glad to recommend the proper pump for your use.

**L-1207½****EXTRA HEAVY DOUBLE ACTING
WINDMILL FORCE PUMP**

Our Force Pump is made especially for deep wells and hard, heavy work. Equipped with a 3-way valve for storage and stock tank purposes and is adapted for either windmill, hand or pump jack use. Pump head is furnished with removable bearing caps to take up the wear of the slide bar from being interfered with by ice in cold weather. Pump has a 1-inch upper cylinder made with heavily seamed brass tubing. Has a hand wheel on the spout, which regulates the flow of the water to a distant storage tank or thru the spout. Equipped complete with ¾-inch hose connection. This pump can be fitted for any size suction pipe, but is ordinarily fitted for 1¼-inch. Price does not include lower cylinder.

List price complete with 1½-inch air barrel and 6-inch stroke.....**\$20.50**

List price complete with 2-inch air barrel and 10-inch stroke..... **24.60**

See page 160 for pump accessories.

**EXAMPLES IN ORDERING THE
RIGHT PUMP**

First example: Suppose that your well is 40 feet deep, with the lowest water level 15 feet from the bottom, and that you desire to use our Lift Pump No. L-1202, you will therefore need the following material: 1 No. L-1202 Heavy Non-Freezing Lift Pump, 30 feet of 1¼-inch Galvanized Pipe and one 1¼-inch L-52 Foot Valve and Strainer.

Second example: Suppose that your well is 60 feet deep, with the lowest water level 20 feet from the bottom, you will, therefore, have to lower the cylinder beneath the water and you will need the following material: 1 No. L-1202 Pump, 46 feet of 1¼-inch Galvanized Pipe and 1 short piece of 1¼-inch Galvanized Pipe to extend from cylinder further into the water onto which the Pipe Strainer will be attached, 46 feet of No. L-54 Galvanized Pump Rod, 2 No. L-54 Pump Rod Couplings and 1 No. L-53 1¼-inch Pipe Strainer.



L-1235

DOUBLE ACTING FORCE PUMP 3-WAY VALVE

Our Double Acting Force Pump with 3-way valve and with windmill top is especially designed for country use. Water can be pumped to distant storage or stock tank by operating lever on spout and the double acting feature insures a strong, smooth, steady stream. Spout is attached with union and turns from right to left, consequently, this pump can be used either as right or left hand. Renewable guide caps in the heads take up the wear in the slide bar. Upper valve is made of seamless drawn brass tubing. Regularly furnished with 6-inch stroke, but can be furnished with 10-inch or adjustable stroke for \$1.50 additional.

List price complete with 3-inch polished iron cylinder tapped for $1\frac{1}{4}$ -inch pipe. **\$17.30**

List price complete with $3\frac{1}{2}$ -inch polished iron cylinder tapped for $1\frac{1}{2}$ -inch pipe **18.40**

List price complete with 3-inch brass lined cylinder tapped for $1\frac{1}{4}$ -inch pipe **19.50**

List price complete with $3\frac{1}{2}$ -inch brass lined cylinder tapped for $1\frac{1}{2}$ -inch pipe **20.50**

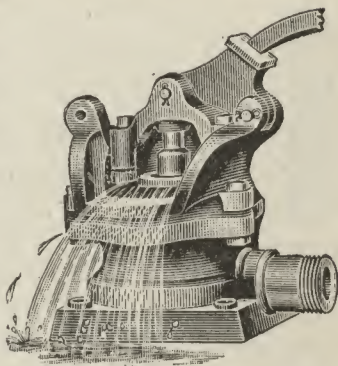
See page 160 for pump accessories.

WHY A PUMP WON'T WORK

The usual reason for a pump failing to work is that the leathers in the cylinder have worn out, thereby failing to create the proper suction. Another reason for the pump failing to work is that the distance between the cylinder and water is greater than 25 feet. If your water level during a long dry period goes below 25 feet, it will be necessary for you to lower the cylinder. For this reason, we advise placing the cylinder low enough to take care of an emergency. Pumps also fail to work because some foreign substance or other has become lodged on the valve seat, thereby permitting the water to run back down through the cylinder and into the well.

L-2223 CONTRACTORS' DIAPHRAGM PUMP

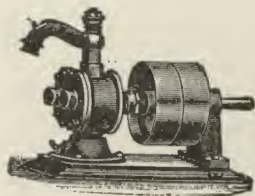
A very well-made pump, especially recommended for contractors in pumping sewage or thick, heavy liquids. Will deliver a large volume of any liquid that will ordinarily flow, and is positive and efficient in operation. Has long, heavy handle, making pumping an easy matter. Number one and two pumps have side suction; number three and four have bottom suction. Prices on hose for this pump will be furnished on request. See page 16 for Foot Valves.



List prices complete:

Pump No.	Hose or Pipe size	Gallons Per Hour	List Price
1	2½"	1500	\$35.00
2	3 "	3500	44.00
3	2½"	1500	35.00
4	3 "	3500	44.00

L-1120—POWER ROTARY FORCE PUMP



Our Power Rotary Force Pump is bolted onto a cast iron frame, and arranged with tight and loose pulleys. This pump is designed for use where a large amount of water is needed at a great distance from the pump. Pump must not be over 15 feet from water, but will force water to an elevation of 100 ft. and about 300 feet horizontally, if pump is run at a sufficient capacity. For ordinary use, it is recommended to run the pump from 100 to 125 revolutions per minute, although it can be run as high as 200 without danger. This pump will operate against a pressure head of from 10 to 50 pounds per square inch, and will discharge a steady stream of water. This pump is carefully machined and adjusted, and every pump is tested under actual service before leaving the factory. Pump can be operated by hand by using balance wheel and handle.

Add \$6.00 if hand attachment is wanted.

List price complete.

Size	Gals. Per Min.	Size, Ins.	
No. 1.....	13	1¼	\$24.00
No. 2.....	15	1¼	26.40
No. 3.....	18	1½	30.65
No. 4.....	27	2	50.30
No. 5.....	37	2	56.80

L-51 CYLINDERS



Our Cylinders are made of the very best material obtainable with great care and thoroughly inspected before leaving our factory. Check valves and plungers are made from the very best oak tanned leather and will give lasting service. Brass-lined cylinders have brass valve seats, which will give additional life to the cylinder. All cylinders under

12 inches have single leather plungers, and cylinders 14 inches and longer have double leather plungers, correctly separated so as to give full suction power to both. The brass-lined cylinders with double leather plungers are recommended for deep wells and where a large volume of water is wanted. Cylinders 10 inches in length have a 6-inch stroke, 12-inch cylinders 8-inch stroke, 16-inch cylinders 10-inch stroke. All cylinders smaller than 3½ inches are tapped for 1¼-inch pipe, while the 3½-inch cylinder is tapped for 1½-inch pipe and the 4-inch cylinder is tapped for 2-inch pipe.

List price is complete.

ALL IRON CYLINDERS

	10 in.	12 in.	14 in.	16 in.
Diam.	Long	Long	Long	Long
2 in.	\$ 2.50	\$ 3.65	\$ 3.95	\$ 4.10
2½ in.	2.90	3.95	4.20	4.60
3 in.	3.25	4.60	4.95	5.30
3½ in.	4.65	5.95	6.60	7.50
4 in.	5.90	7.60	8.60	9.60

BRASS-LINED CYLINDERS

	10 in.	12 in.	14 in.	16 in.
Diam.	Long	Long	Long	Long
2 in.	\$ 5.95	\$ 6.35	\$ 6.75	\$ 7.15
2½ in.	6.35	7.30	7.35	8.15
3 in.	7.15	7.65	8.15	8.95
3½ in.	8.35	8.95	9.75	10.75
4 in.	10.35	11.30	12.55	13.90



L-52 FOOT VALVES

Generally used in shallow wells and especially in connection with our Contractor's Diaphragm Pump. Made of cast iron, galvanized over all. Carefully threaded. Has best oak leather check valve.

Size	Price
1 in.	\$0.75
1¼ in.	1.25
1½ in.	1.60
2 in.	2.50
2½ in.	3.50
3 in.	4.50

L-50 THE DRIVE WELL POINT

The Drive Point is used in what is known as the driven well and is made of galvanized wrought iron pipe, into which holes have been drilled, and which has been covered by brass gauze. Thoroughly protected by a perforated brass jacket. Made in a 60-gauge gauze. This is a big protection for your drinking water, and it also prevents the pipes from getting clogged.



Size	Length	List Price
1¼ in.	24 in.	\$2.10
1¼ in.	30 in.	2.65
1½ in.	24 in.	3.40
1½ in.	30 in.	3.60
2 in.	30 in.	5.25
2 in.	36 in.	6.00



L-54 PUMP ROD

Galvanized round steel pump rod, used for connecting pump to cylinder. Comes in 20-foot lengths, but upon request we will cut it to any length desired. Add 2 cents for extra cut and thread.

Size	List Price per foot
¾ inch.	\$0.08
⅞ inch.	.12
1 inch.	.16

L-53 PIPE STRAINER



These Strainers are generally used in cisterns or shallow wells to prevent foreign substances from entering the pipe. Very well made of galvanized iron, perforated and lined with brass gauze.

Size	List Price
1 in.	\$0.50
1¼ in.	.75
1½ in.	.90
2 in.	1.20



L-55 PUMP ROD COUPLINGS

Galvanized steel pump rod couplings. Used in connecting pump rod.

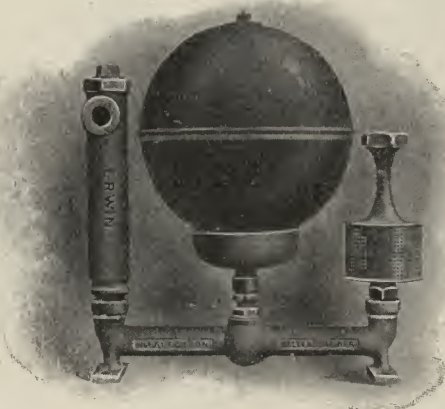
Size	List Price
¾ inch.	\$0.10
⅞ inch.	.12
1 inch.	.14

WHAT OUR PATRONS SAY

- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: Our Steam Heating System is giving us entire satisfaction. We could not wish for anything better. Yours very truly,
Barr Pattern Company.
Chewelah, Wash., Oct. 22, 1920.
- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: The pipeless furnace is wonderful. There is nothing more that could be expected from it. Thanks. Very truly yours,
C. F. Rider.
Battle Creek, Mich., July 2, 1920.
- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: All fixtures arrived in fine shape and am well pleased, having found everything as represented. Yours very truly,
F. C. Phillipson.
Des Moines, Iowa, Aug. 18, 1921.
- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: Your pipeless furnace is a dandy. I have shown it to a number of people and will purchase more this fall.
Yours respectfully,
W. A. Montgomery.
New Madison, Ohio, Feb. 15, 1921.
- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: I bought my plumbing from your firm and am well pleased. I can recommend you to anyone. Very truly yours,
C. B. Lawrence.
De Kalb, Ill., Nov. 29, 1921.
- Hardin-Lavin Co., Chicago, Ill.
Gentlemen: These few lines to let you know my Hot Water Heating System is working fine. Many thanks for your helpful service.
Respectfully,
August Erickson.

AUTOMATIC CELLAR DRAINER OR SEWERAGE PUMP

L-616. This is a very valuable drainer or pump where basements are excavated lower than sewer and are constantly filling with water after rains, etc. To install, build basin of brick, wood or concrete about 3 feet deep in lowest part of basement, setting valve or pump on bottom of same with $\frac{3}{4}$ inch cold water supply connected to pump. Water pressure operates the pump automatically. Connect up $1\frac{1}{4}$ -inch discharge pipe with sewer or carry same outside of building. When water in basement seeps into basin, it raises the ball and immediately starts the automatic pump to operate and it will drain the basement in a very few minutes. When basement is pumped out the ball lowers and shuts off the valve automatically. This apparatus will keep your basement dry without any attention whatever. We guarantee that it will give you absolute satisfaction and needs very little repairs.
Price on valve and column, complete.....\$45.00



L-616

CAST IRON SOIL PIPE AND FITTING DEPARTMENT

Our cast iron soil pipe and fitting are all evenly and well-casted, with well-formed hubs and burrs on all outlet ends, making it very easy for any handy man to properly install this material. It is all well tarred inside and out and carefully inspected before leaving our plant.

We will call your attention to our No. 617 Smooth-on Cement which makes it very easy for any handy man to install our soil pipe and fittings without a furnace and calking tools. See pages 2 to 16.

PLUMBERS' ROPE OAKUM FOR CALKING



L-617

Our rope oakum is wound in suitable sizes, making it very easy to calk same into hubs of soil pipe.

Price per lb.....\$0.12

NEW SMOOTH-ON CE- MENT FOR CALKING



L-618

This is very easily handled and is to be used in place of lead to calk and connect soil pipe together and is everlasting. Furnished in 5 and 10-lb. cans.

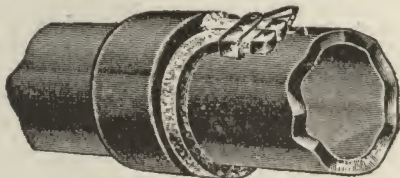
Price per lb.....\$0.60

ADJUSTABLE TESTING PLUG FOR TESTING SOIL PIPE



L-619

ASBESTOS POURING ROPE FOR POURING LEAD IN HORIZONTAL JOINTS



L-620

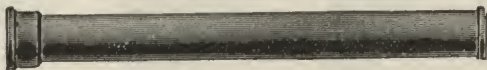
Size	2-in.	4-in.
L-619. Price, each.....	\$0.90	\$1.50
L-620. For 2-in. and 4-in. pipe. Price.....	1.70	

HOW to connect soil pipe without the use of lead. See L-618.

HOW to prevent rubbish from entering vent on roof or sewer vent. See L-642.

CAST IRON SOIL PIPE AND FITTINGS

All thoroughly tarred and inspected
Single Hub Soil Pipe



L-621

Size, inches.....	2-in.	4-in.	6-in.
Length (5 ft.), std., price per ft.....	\$0.20	\$0.36	\$0.52
Length (5 ft.), ex. heavy, price per ft.....	.26	.54	.86

Double Hub Soil Pipe



L-622

Size, inches.....	2-in.	4-in.	6-in.
Length (5 ft.), std., price per ft.....	\$0.25	\$0.40	\$0.56
Length (5 ft.), ex. heavy, price per ft.....	.28	.58	.76

WHEN YOU BUY FROM US, YOU GET HIGH CLASS
GOODS, ABSOLUTE SATISFACTION, AND UNLIMITED
SERVICE.



L-623
1/4 Bend



L-624
1/5 Bend



L-625
1/6 Bend



L-626
1/8 Bend

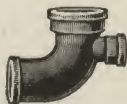


L-627
1/8 Bend

Size, inches.....	2-in.	4-in.	6-in.
L-623, L-624, L-625, L-626, L-627. Std., each.....	\$0.32	\$0.58	\$1.10
L-623, L-624, L-625, L-626, L-627. Ex. heavy, each.....	.46	.72	1.30



L-628
1/4 Bend,
Side Inlet



L-629
1/4 Bend,
Heel Inlet



L-630
1/4 Bend,
Double Hub



L-631
1/8 Bend,
Double Hub

Size, inches.....	2-in.	4-in.
L-628, L-629. Std., price each.....	\$1.04	\$1.04
L-628, L-629. Ex. heavy, price each.....	1.30	1.30
L-630, L-631. Std., price each.....	.64	1.00
L-630, L-631. Ex. heavy, price each.....	.74	1.18

CAST IRON SOIL FITTINGS

All Tarred and Inspected



L-632
Tee



L-633
Sanitary Tee

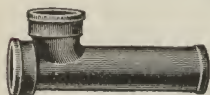


L-634
Y



L-635
Sanitary Tee
with 2-in. side
inlet

Size, inches.....	2 in.	4 in.
L-632, L-633, L-634. Std., Price each.....	\$0.50	\$0.90
L-632, L-633, L-634. Ex. heavy, price each.....	.70	1.12
L-635. 4x4x2". Std., price each.....		1.60
L-635. 4x4x2". Ex. heavy, price each.....		1.90



L-636
Long Sanitary Tee



L-637
Extra Heavy Sanitary Tee, Tapped



L-638
Regular Tee,
Tapped

Size, inches.....	2 in.	4 in.	1½ in.	2 in.
L-636. Std., price.....	\$0.46	\$0.90		
L-636. Ex. heavy, price.....	.62	1.16		
L-637. Price, each.....			\$0.66	\$1.04
L-638. Price, each.....			.80	1.32

Give size of tapping.



L-639
Single Hub



L-640
Double Hub



L-641
Sleeve



L-642
Vent Cap

Size, inches.....	2 in.	4 in.
L-639, L-640, L-641. Std., price.....	\$0.44	\$0.52
L-639, L-640, L-641. Ex. heavy, price.....	.50	.60
L-642. Std., price.....	.50	.74
L-642. Ex. heavy, price.....	.62	.90



L-643
Increaser to go through roof



L-644
Soil pipe extension

Size, inches.....			2x4		4x5	
L-643. Std., price each.....			\$1.40		\$1.70	
L-643. Ex. heavy, price each.....			1.70		2.00	
Size, inches.....	2x12	2x18	2x20	4x8	4x12	4x20
L-644. Std., price each.....	\$0.84	\$1.16	\$1.24	\$1.12	\$1.30	\$2.00
L-644. Ex. heavy, price each...	1.04	1.20	1.44	1.24	1.50	3.00

CAST IRON SOIL FITTINGS, TRAPS, ETC.

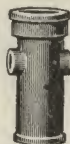
All tarred and inspected



L-645
Sanitary
Cross



L-646
Sanitary
Cross
Side Inlet



L-647
Tapped Cross



L-648
Sanitary
Tapped Cross

Size, inches.....	2 in.	4 in.
L-645. Price each, std.....	\$1.04	\$1.44
L-645. Price each, ex. heavy.....	1.12	1.76
L-646. Price each, std.....	1.84	2.40
L-646. Price each, ex. heavy.....	2.64	3.24
L-647. Price each, std.....	1.04	1.46
L-647. Price each, ex. heavy.....	1.30	1.80
L-648. Price each, std.....	1.04	1.44
L-648. Price each, ex. heavy.....	1.12	1.96



L-649
Soil P Trap



L-650
Soil S Trap



L-651
Soil Running Trap

Size, inches.....	2 in.	4 in.	6 in.
L-649, L-650, L-651. Price each, std.....	\$0.72	\$1.24	\$4.00
L-649, L-650, L-651. Price each, ex. heavy...	.90	1.50	5.20



L-652
P Trap Vented



L-653
P Trap with
Cleanout



L-654
Insertible Joint

OUR SOIL PIPE AND FITTINGS
HAVE BELL HUBS AND ARE EASY
TO MAKE TIGHT.

Size, inches.....	2 in.	4 in.	6 in.
L-652, L-653. Price each, std.....	\$1.16	\$2.10	\$4.56
L-652, L-653. Price each, ex. heavy.....	1.30	2.54	5.70
L-654. Price each.....	1.76	2.24	3.30
L-654. Price each, ex. heavy.....	2.50	3.00	5.00

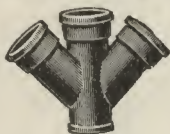
Sisson insertible joint is used in repair work when soil tee or section of stack must be removed. This joint has about 8 in. adjustment.

HOW to economize on water. See L-385 to L-390, page 99.

SOIL PIPE, FITTINGS, ETC.
All thoroughly tarred and inspected



L-655
Offset



L-656
Double Y



L-657
Tee Cleanout
with Brass
Trap Screw



L-658
Y Cleanout
with Brass
Screw

Size	2x4	2x8	2x12	2x18	4x4	4x8	4x12	4x18
L-655. Std., price each	\$.54	\$.70	\$1.00	\$1.50	\$.94	\$1.08	\$1.40	\$2.00
L-655. Ex. hvy., price each	.70	.84	1.20	1.90	1.20	1.34	1.74	3.12
Size	2 in.	4 in.						
L-656. Std., price each						\$1.08		\$1.60
L-656. Ex. heavy, price each						1.34		1.90
Size	2 in.	4 in.						
L-657, L-658. Std., price each						\$1.40		\$1.60
L-657, L-658. Ex. heavy, price each						1.60		1.90



L-659
Tee Saddle
Hub



L-660
Stack Rest

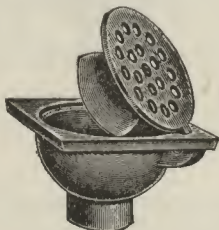


L-661
Bar Strainer



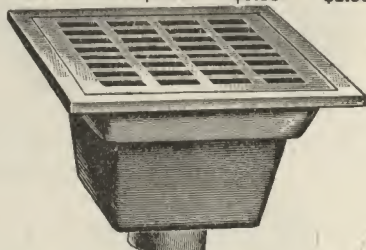
L-662
Roof Plate

Size	2 in.	4 in.					
L-659. Std., price each	\$0.76	\$1.20					
L-659. Ex. heavy, price each	1.10	1.40					
Size	2 in.	4 in.					
L-660. Std., price each	\$0.30	\$0.40					
L-660. Ex. heavy, price each	.40	.52					
Size, L-661.	4 in.	5 in.	6 in.	7 in.	8 in.		
L-661. Price each	\$0.30	\$0.36	\$0.50	\$0.60	\$0.90		
Size, L-662.	2 in.	4 in.	5 in.				
L-662. Price each, regular	\$0.60	\$0.80	\$1.00				



L-663

Heavy bell trap with hinged cover for garage floors, etc.

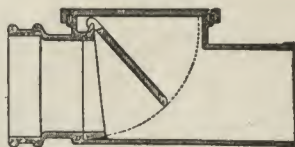


L-664

Square design extra heavy cess pool with bell trap and grating for barns and large garage floors, etc.

Size	6x6	9x9	13x13
L-663. Price each	\$1.20	\$1.50	\$2.70
Size	16x16	16x10	
L-664. Price each			\$6.40

HARDIN-LAVIN SANITARY AUTOMATIC BACK WATER SEWER VALVE OR TRAP



L-665

This is a very necessary valve to install in any sewer where sewerage backs into basement from main sewer during heavy rains, etc. It is well made with removable cleanout cover and will be found very sanitary where sewerage backs up. It can be easily installed in tile or cast iron sewer by any handy man.

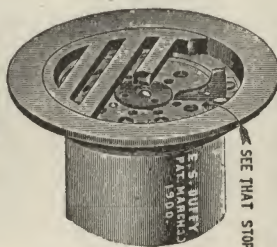
Price each, 4-inch.....\$ 9.00
Price each, 6-inch..... 12.80

HOW to replace broken section of soil pipe without removing stack. See L-654.

ANY HANDY MAN CAN INSTALL OUR GOODS WITH OUR EASY PLAIN INSTRUCTIONS.



L-666



L-667



Hardin-Lavin Sanitary Galvanized Iron Bell Traps, With 8-Inch Galvanized Funnel.

This trap cover can be removed by hand to clean out and is tapped for 1 1/4 iron pipe waste.
Price complete....\$1.40

Hardin-Lavin Back Water Sewer Grate With Shutter.

For use in floor drain where sewerage backs up. Can be kept closed when not in use. Size, 4 inches.

Price\$5.00

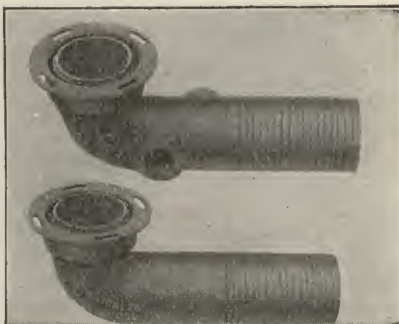
Cast Iron Laundry Tub Legs.

L-678. Price each\$1.00

See Special Laundry Tub Frame, L-690.

TWENTIETH CENTURY HARDIN-LAVIN EASILY INSTALLED ADJUSTABLE CAST IRON CLOSET BENDS WITH FLOOR FLANGE

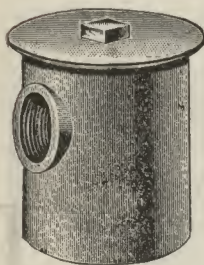
These adjustable iron closet bends are cheap in price and very sanitary. They are used in place of lead bends to make a perfect, strong and substantial connection between the closet bowl and soil pipe. The adjustable floor flange can be screwed up or down to fit your floor level. Bends can be easily cut to any length on outlet where rings are shown with a hammer and chisel. No. 1 bend is tapped $1\frac{1}{2}$ inches on each side that both tub and lavatory can be connected into same. No. 2 bend is plain for closet connection only. These bends make a very strong and lasting connection between closet bowl and stack.



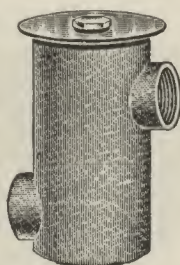
L-669

L-670

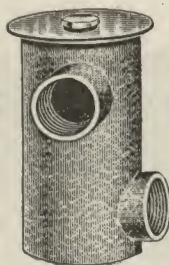
- No. 1. 4x15 in., with adjustable flange and bolts, tapped, complete, price.....\$3.20
 No. 2. 4x15 in., with adjustable flange and bolts, plain, complete price 3.00
 See Elevation L-190.



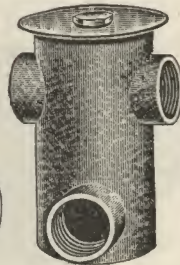
L-671



L-762



L-673



L-674

LATEST DESIGN CAST IRON DRUM TRAPS WITH WIDE NICKEL-PLATED SCREWED FLANGED COVER

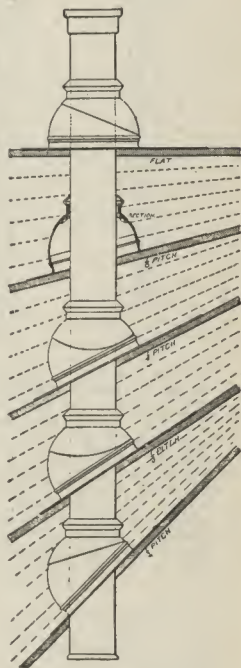
All openings tapped for $1\frac{1}{2}$ -inch iron pipe.

These drum traps are not only easily installed, but are tapped with various outlets that they can be used to an advantage in any location whatever. We not only recommend them for bathtubs, but for laundry tubs and sinks in restaurants, etc.

- L-671. 4x5 in., is tapped on side and bottom. Price each.....\$1.70
 L-672. 4x8 $\frac{1}{2}$ in., is tapped on opposite sides. Price, each..... 2.50
 L-673. 4x8 $\frac{1}{2}$ in., is tapped on two sides. Price each..... 2.90
 L-674. 4x8 $\frac{1}{2}$ in., is tapped on three sides. Price each..... 3.30

See Elevation L-188.

HARDIN-LAVIN ADJUSTABLE ROOF FLANGE



L-677

This roof flange will adjust to any slant roof and with an ordinary hammer can be fitted tight around soil pipe. Is made out of heavy galvanized iron.

Size,			
in. ...	2	4	5
Price			
each.	\$1.80	\$2.20	\$2.40



L-678

Hardin frost-proof hydrant used for country homes and villages for general use and fire hose connection. Entire length, 6 ft.



L-679

Hardin frost-proof self-closing hydrant, used for country homes and villages for general use and fire hose connection. Entire length, 6 ft.



L-680

Hardin frost-proof street washer with hose attachment, to be used in yard or lawn to water grass, etc.



L-681
Wrench
or key to
loosen Buf-
falo box lug.



L-682

L-682. Adjustable extension Buffalo water service box to be installed above water valve at curb below water main that water can be turned off. Will extend 5 ft.



L-683

Hardin extra long extension for Buffalo box when main is more than 5 ft. deep.

Size, inches.....	$\frac{3}{4}$	
L-678. Price each.....	\$13.00	
L-679. Price each.....	12.50	
L-680. Price each.....	5.00	
L-681. Price each.....	.70	
L-682. Price each.....	2.50	
L-683. Price each.....	1.50	

1
\$16.00

HOW to make tight union joint on iron pipe without the use of union gaskets. See L-790.

HOW TO CEMENT EARTHENWARE OR GLASS

Heat the article to be mended slightly above boiling heat and apply to each surface to be cemented a thin coating of gum shellac and press the two surfaces together. When the article has cooled the break will be almost as strong as the original.

**HARDIN-LAVIN PERFECT CAST IRON SINK AND LAUN-
DRY TRAPS, PAINTED FOR NEW AND OLD STYLE
SINK AND LAUNDRY TUB CONNECTIONS**



L-684



L-685



L-686



L-687

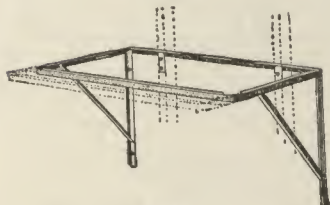


L-688

GIVE US A
TRIAL ORDER.
YOU WILL
GET SATIS-
FACTION. WE
WILL HAVE A
STEADY CUS-
TOMER.

L-684 and L-685.	1¼ in. short outlet, price each.....	\$1.20
L-684 and L-685.	1¼ in. long outlet, price each.....	1.90
L-684 and L-685.	1½ in. short outlet, price each.....	1.60
L-684 and L-685.	1½ in. long outlet, price each.....	2.50
L-686.	1¼ in. short outlet, price each.....	1.40
L-687.	1½ in. short outlet, price each.....	1.50
L-688.	1½ in. short outlet, price each.....	1.30

**STRONG STEEL
ADJUSTABLE SINK
FRAME**



L-689

**STRONG STEEL LAUNDRY
FRAME FOR TWO PART
LAUNDRY TUB**

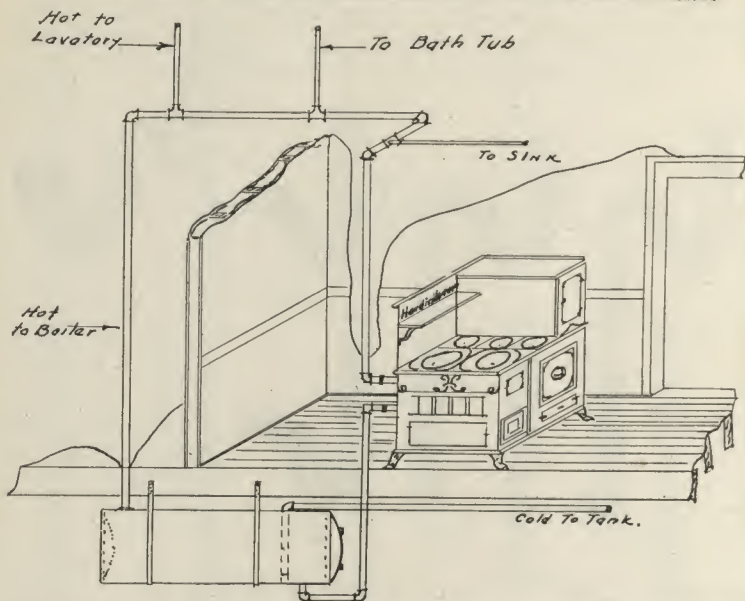


L-690

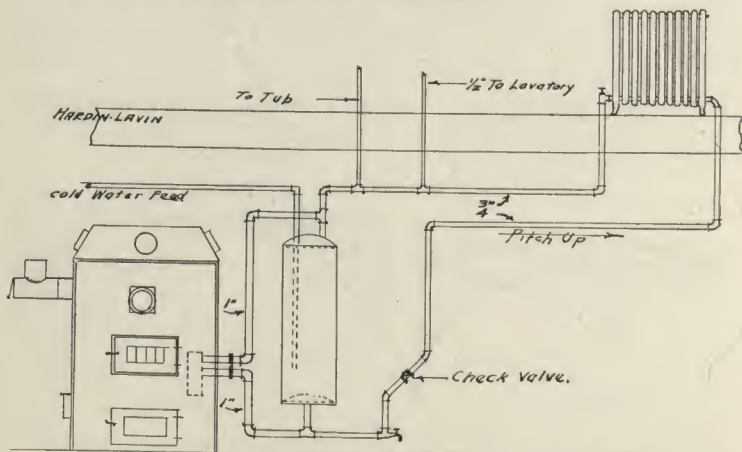
Will fit any flat rim sink.
Give size of sink.
Price each.....\$2.00

Price each.....\$3.00

Our Service Is as Valuable to You as Our Guarantee



Elevation showing practical method to heat hot water tank in basement with coil in range placed on first floor. Be sure hot water pipe is carried to ceiling of first floor and back to tank in basement, full size, taking off hot water supply to fixtures at ceiling. You can use any gas or coal water heater with this method.



Elevation showing coil in furnace or boiler properly connected to hot water tank radiator for heating one room. Notice this method is perfect, simple and easy.



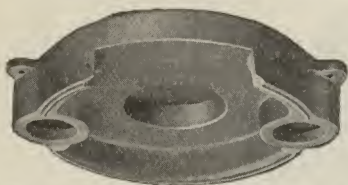
L-710 HARDIN-LAVIN WATER BOILERS CAPACITIES AND PRICES

No.	Hgt. at Outlets	Outlets In. Each	Inlets In. Each	Smoke Collar	Water Ratings	List Price
20-4-W.....	45	2-2½	2-2½	8-in.	650 ft.	\$170.00
20-5-W.....	50	2-2½	2-2½	8-in.	775 ft.	190.00
20-6-W.....	55	2-2½	2-2½	8-in.	850 ft.	205.00
23-4-W.....	45	2-3	2-3	8-in.	875 ft.	210.00
23-5-W.....	50	2-3	2-3	8-in.	1050 ft.	230.00
23-6-W.....	55	2-3	2-3	8-in.	1150 ft.	260.00
26-5-W.....	50	2-3½	2-3½	10-in.	1250 ft.	290.00
26-6-W.....	55	2-3½	2-3½	10-in.	1400 ft.	320.00
26-7-W.....	60	2-3½	2-3½	10-in.	1550 ft.	345.00
29-5-W.....	51	2-4	2-4	10-in.	1600 ft.	350.00
29-6-W.....	56	2-4	2-4	10-in.	1725 ft.	380.00
29-7-W.....	61	2-4	2-4	10-in.	1900 ft.	410.00

SHIPPING WEIGHTS OF BOILERS

No. 20-4-W Boiler.....	775 lbs.	No. 26-5-W Boiler.....	1250 lbs.
No. 20-5-W Boiler.....	850 lbs.	No. 26-6-W Boiler.....	1360 lbs.
No. 20-6-W Boiler.....	910 lbs.	No. 26-7-W Boiler.....	1470 lbs.
No. 23-4-W Boiler.....	960 lbs.	No. 29-5-W Boiler.....	1500 lbs.
No. 23-5-W Boiler.....	1040 lbs.	No. 29-6-W Boiler.....	1550 lbs.
No. 23-6-W Boiler.....	1170 lbs.	No. 29-7-W Boiler.....	1690 lbs.

Our reputation is your guarantee. (See over)



Center Outlet Smoke Hood adjustable to any direction.

IMPROVED DESIGN

Hardin-Lavin Boilers are built in accordance with recognized principles. Up-to-the-minute construction insures high efficiency. Our boilers pass a rigid inspection, insuring perfect construction. Throughout, details are watched by men of experience.

STEADY EVEN HEAT

The improved, scientific, and practical arrangement of the heat absorbing surfaces insures quick heating results. Hardin-Lavin Boilers are so designed and constructed that heat is available a short time after the fire is started. The large area of flue surface and numerous flues gives maximum heat absorbing capacity. Ordinarily, a few minutes' time is sufficient to circulate water through the entire heating system. Large cleanout doors and even flue surface permits quick and easy cleaning of boilers. Swivel smoke hood is adjustable to any direction, and has built-in fuel saving damper and check draft.

NARROW WATER WAYS

The numerous flues, large flue surface, and narrow water ways are perfectly and scientifically arranged. Due to the perfect placement of the heat absorbing surfaces, the greatest economy is assured.



Indirect fire travel extracts all heat units.

BURNS ANY FUEL

By reason of the different and better construction of our boiler, it burns any kind of fuel economically and without change of grate. Due to the construction of the combustion chamber, perfect combustion and burning of all gases is assured. Practically every particle of fuel burned radiates its full quota of heat units. The reduction of ashes and soot to a minimum is positive proof of its free burning and wonderful heating efficiency.



Best Extra Heavy Cast Iron Nipple Construction

IMPROVED SECTION ASSEMBLY

Sections are assembled with extra heavy cast iron push nipples insuring ease of erection and make an absolutely tight joint. Nipples are indestructible and will not give out.

Substantial opinions on our guarantee. See pages 8-130-160.



**Outside Water Ways.
Large Capacity Fire Pot.**

EXTRA DEEP FIRE POT

The deep fire pot adds efficiency and promotes combustion. It is deep enough for an ample charge of fuel, giving maximum efficiency. Ordinarily, it is only necessary to fire the boiler twice a day, insuring economy in operation.

ECONOMY OF DESIGN

The design of the Hardin-Lavin Boiler is generally conceded as being superior to others, and by going over the description of our boiler, you will find that every practical improvement essential to perfect working, and long life is included in its design. Actual saving of fuel has been amply demonstrated in numerous instances, proving that economy of design and service is built in through and through.

GUARANTEED RATINGS

Hardin-Lavin Boilers are conservatively rated according to recognized, accepted standards, and show a high efficiency test and saving of fuel. The established ratings allow a liberal reserve capacity for extreme weather conditions. New improvements alone, actually add 255 surplus capacity.

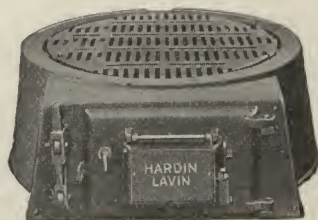
ORIGINAL DESIGN PERFECT CONSTRUCTION ECONOMICAL IN OPERATION

THE FIRST COST

Efficiency and reliability of a boiler can only be judged by past performance. For over forty years, Hardin-Lavin Boilers have been giving universally satisfactory service. Buy your boiler from us—assure yourself of satisfaction, and obtain the benefit of our long experience at no extra cost.

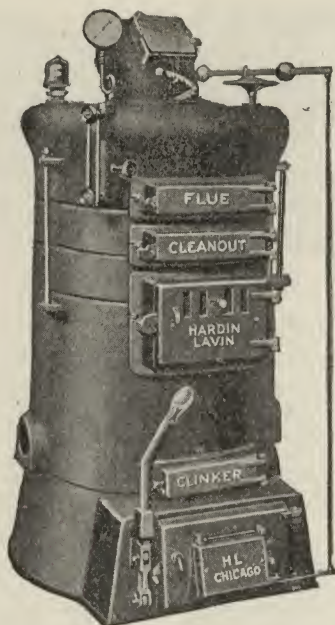
ROCKING AND DUMPING GRATES

Grates are heavy truss pattern, universally known as the best grate for burning of all fuel. Grates are easily accessible, and shake easy. Entire grate can be cleared by moving lever full distance to front.



**Mesh Grate Burns Any Kind
of Fuel**

Established nearly 50 years. See pages 5-8-130-161.



L-709 HARDIN-LAVIN STEAM BOILERS CAPACITIES AND PRICES

No.	Hgt. at Outlets	Outlets In. Each	Inlets In. Each	Smoke Collar	Water Ratings	List Prices
20-4-S.....	45	2-2½	2-2½	8-in.	400 ft.	\$180.00
20-5-S.....	50	2-2½	2-2½	8-in.	450 ft.	200.00
20-6-S.....	55	2-2½	2-2½	8-in.	500 ft.	215.00
23-4-S.....	45	2-3	2-3	8-in.	550 ft.	220.00
23-5-S.....	50	2-3	2-3	8-in.	625 ft.	240.00
23-6-S.....	55	2-3	2-3	8-in.	700 ft.	270.00
26-5-S.....	50	2-3½	2-3½	10-in.	750 ft.	300.00
26-6-S.....	55	2-3½	2-3½	10-in.	850 ft.	330.00
26-7-S.....	60	2-3½	2-3½	10-in.	925 ft.	355.00
29-5-S.....	51	2-4	2-4	10-in.	975 ft.	360.00
29-6-S.....	56	2-4	2-4	10-in.	1075 ft.	390.00
29-7-S.....	61	2-4	2-4	10-in.	1200 ft.	420.00

SHIPPING WEIGHTS OF BOILERS

No. 20-4-S Boiler.....	830 lbs.	No. 26-5-S Boiler.....	1320 lbs.
No. 20-5-S Boiler.....	900 lbs.	No. 26-6-S Boiler.....	1510 lbs.
No. 20-6-S Boiler.....	970 lbs.	No. 26-7-S Boiler.....	1625 lbs.
No. 23-4-S Boiler.....	1030 lbs.	No. 29-5-S Boiler.....	1620 lbs.
No. 23-5-S Boiler.....	1160 lbs.	No. 29-6-S Boiler.....	1710 lbs.
No. 23-6-S Boiler.....	1270 lbs.	No. 29-7-S Boiler.....	1830 lbs.

Our fifty years experience is your protection.

LONG LIFE—RELIABLE SERVICE

Hardin-Lavin Boilers are not only perfectly and scientifically constructed, but are long lasting, and give reliable service. Castings are of the proper proportion, design, weight, and thickness, insuring the greatest economy of fuel in operation.

LARGE DRY STEAM SPACE

The dome section is purposely made extra deep which provides ample storage space for steam, giving a wide and steady range of heating service without attention or waste of fuel. Numerous flue openings in sections extract the greatest possible amount of heat from the fuel.

PERFECT CONSTRUCTION

LOW FUEL COST

EASY TO OPERATE

Built scientifically right, our improved Steam Boiler burns up the soot and gases of combustion. The indirect and definite staggered flue travel makes the flames take an indirect travel, resulting in the abstraction of the greatest number of heat units from the fuel. By reason of the improved combustion efficiency in our Steam Boiler, every particle of fuel is actually forced to release the maximum number of heat units contained in it. The reduction of ashes to a minimum, the lack of clinkers, and the quick heating of our boiler is evidence of its wonderful performance.

AUTOMATIC DRAFT CONTROL

The draft is automatically and perfectly controlled by our special automatic diaphragm controller. It is very sensitive, and opens and closes the draft or check draft as long as there is fire in the boiler. Cannot get out of order, and will regulate the boiler perfectly.

IMPRACTICAL TO USE STEAM BOILER FOR HOT WATER

In the design of our boiler, we have made no compromise or modification of pattern in order to try to make one type of boiler answer for both steam and water heating. Actual tests have proven the inefficiency of using a water boiler for steam, or a steam boiler for water heating.

Only the very best grade of material is used in the manufacture of our boilers, and combined with first class workmanship, and experienced engineering services, you are, in advance assured that our boiler will give perfect service.

DIRECT HEATING SURFACE

Hardin-Lavin Boilers have from 10 to 35% more direct heating surface, thus increasing the efficiency of Hardin-Lavin Boiler construction.

Our responsibility protects you. See pages 8-130-161.



1923 L-711 HARDIN-LAVIN SECTIONAL BOILERS

The design of our boiler brings a maximum amount of heating surface in contact with the fire. The products of combustion must first pass to the back of the boiler, then to the front, and then to the back again, and from this point out in through the smoke hood. All flues and heating surface is scientifically arranged, extracting the greatest possible number of heat units.

SUPERIOR CONSTRUCTION DETAILS

Heavy cast iron nipples permits quick and tight assembly of boiler. Grates are heavy truss pattern, rocking and dumping type, adapted for burning all kinds of fuel. All parts fit perfectly. Doors are ground to fit. It is careful attention to all the small details involved in the scientific construction of the Hardin-Lavin Boiler that goes to make it a boiler of superior merit.

DIFFERENT CONSTRUCTION FOR STEAM AND WATER

In the design of our steam and water boilers, there is no modification of pattern to try to make a Steam Boiler do for water, and a Water Boiler for steam. The Water Boiler is made with numerous narrow and deep water ways. In our Steam Boiler, the sections are made with a lesser number of water ways, but with a large deep and dry steam space. It is evident that one design of boiler answering for steam and water heating purposes, is a substitute, and will not give service.

DIMENSIONS AND LIST PRICES ON L-711 STEAM BOILERS

Serial No. of Boiler	Grate Surface Inches	Steam Rating Feet	List Prices	Size of Tappings Inches	Height to Outlet Inches	Water Line Inches	Total Length Inches	Smoke Pipe Inches
S-254	22x24	650	\$320	2-4	53	45	47	10
S-255	22x30	950	395	2-4	53	45	54	10
S-256	22x37	1150	470	2-4	53	45	61	10
S-257	22x44	1400	545	2-4	53	45	68	10
S-258	22x51	1650	620	2-4	53	45	75	10
S-355	30x30	1500	560	2-4	53	45	52	13
S-356	30x37	1850	670	2-4	53	45	59	13
S-357	30x44	2250	780	2-4	59	48	66	13
S-358	30x51	2600	890	3-4	59	48	73	13
S-359	30x58	2950	1,000	3-4	59	48	80	13
S-456	38x42	2850	930	2-5	59	48	63	16
S-457	38x50	3400	1,080	2-5	59	48	71	16
S-458	38x58	3900	1,230	3-5	67	55	79	16
S-459	38x66	4400	1,380	3-5	67	55	87	16
S-4510	38x74	4900	1,530	3-5	67	55	95	16

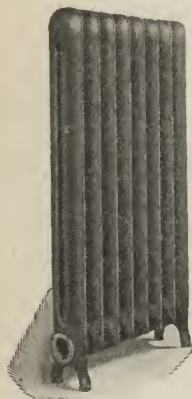
L-711. HARDIN-LAVIN BOILERS FOR HOT WATER HEATING

Our L-711 water boiler is precisely the same as our L-711 steam boiler other than the steam dome is cut up into many small rounded water ways and the water ways surrounding the fire are increased in number and reduced in size. Height, width and all measurements are the same as the steam boiler.

Serial No. of Boiler	Grate Surface Inches	Water Rating Feet	List Prices	Size of Tappings Inches	Height to Outlet Inches	Total Length Inches	Smoke Pipe Inches
W-254	22x24	1050	\$300	2-4	53	47	10
W-255	22x30	1550	375	2-4	53	54	10
W-256	22x37	1900	450	2-4	53	61	10
W-257	22x44	2300	525	2-4	53	68	10
W-258	22x51	2700	600	2-4	53	75	10
W-355	30x30	2475	540	2-4	53	52	13
W-356	30x37	3200	650	2-4	53	59	13
W-357	30x44	3700	760	2-4	59	66	13
W-358	30x51	4300	870	3-4	59	73	13
W-359	30x58	4900	980	3-4	59	80	13
W-456	38x42	4700	900	2-5	59	63	16
W-457	38x50	5650	1,050	2-5	59	71	16
W-458	38x58	6550	1,200	3-5	67	79	16
W-459	38x66	7450	1,350	3-5	67	87	16
W-4510	38x74	9500	1,500	3-5	67	95	16

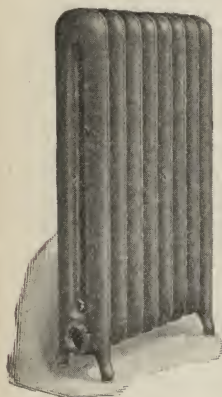
PERFECTED IMPROVEMENTS

We slightly change our designs as new time tried improvements are perfected, which may not show in this book. Our aim is to furnish heating boilers advanced right up to the minute.



SINGLE COLUMN PLAIN RADIATOR.

No. of Sections	Length 2½-in. per Sec.	HEATING SURFACE—SQUARE FEET			
		38-in. Height 3 sq. ft. per Sec.	32-in. Height 2½ sq. ft. per Sec.	26-in. Height 2 sq. ft. per Sec.	23-in. Height 1½ sq. ft. per Sec.
2	5	6	5	4	3½
3	7½	9	7½	6	5
4	10	12	10	8	6⅔
5	12½	15	12½	10	8½
6	15	18	15	12	10
7	17½	21	17½	14	11⅔
8	20	24	20	16	13½
9	22½	27	22½	18	15
10	25	30	25	20	16⅔
11	27½	33	27½	22	18⅓
12	30	36	30	24	20



TWO COLUMN PLAIN RADIATOR.

No. of Sections	Length 2½-in. per Sec.	HEATING SURFACE—SQUARE FEET					
		45-in. Height 5 sq. ft. per Sec.	38-in. Height 4 sq. ft. per Sec.	32-in. Height 3½ sq. ft. per Sec.	26-in. Height 2½ sq. ft. per Sec.	23-in. Height 2 sq. ft. per Sec.	20-in. Height 2 sq. ft. per Sec.
2	5	10	8	6⅔	5½	4⅔	4
3	7½	15	12	10	8	7	6
4	10	20	16	13⅓	10⅔	9⅓	8
5	12½	25	20	16⅔	13⅓	11⅓	10
6	15	30	24	20	16	14	12
7	17½	35	28	23⅓	18⅔	16⅓	14
8	20	40	32	26⅔	21⅓	18⅓	16
9	22½	45	36	30	24	21	18
10	25	50	40	33⅓	26⅔	23⅓	20
11	27½	55	44	36⅔	29⅓	25⅓	22
12	30	60	48	40	32	28	24

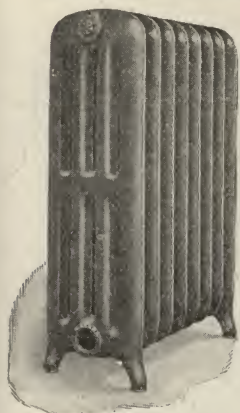


THREE COLUMN PLAIN RADIATOR.

No. of Sections	Length 2½-in. per Sec.	HEATING SURFACE—SQUARE FEET				
		45-in. Height 6 sq. ft. per Sec.	38-in. Height 5 sq. ft. per Sec.	32-in. Height 4½ sq. ft. per Sec.	26-in. Height 3½ sq. ft. per Sec.	22-in. Height 3 sq. ft. per Sec.
2	5	12	10	9	7½	6
3	7½	18	15	13½	11¼	9
4	10	24	20	18	15	12
5	12½	30	25	22½	18¾	15
6	15	36	30	27	22½	18
7	17½	42	35	31½	26¼	21
8	20	48	40	36	30	24
9	22½	54	45	40½	33¾	27
10	25	60	50	45	37½	30
11	27½	66	55	49½	41¼	33
12	30	72	60	54	45	36

NOTE:—All radiators on this page furnished in steam or water in any number of sections.

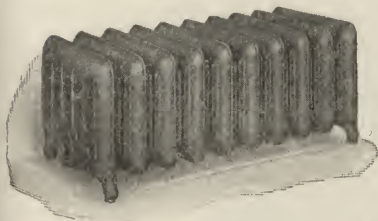
FOUR COLUMN PLAIN RADIATOR



No. of Sections	Length 3-in. per Sec.	HEATING SURFACE—SQUARE FEET				
		45-in. Height 10 sq. ft. per Sec.	38-in. Height 8 sq. ft. per Sec.	32-in. Height 6½ sq. ft. per Sec.	22-in. Height 4 sq. ft. per Sec.	18-in. Height 3 sq. ft. per Sec.
2	6	20	16	13	8	6
3	9	30	24	19½	12	9
4	12	40	32	26	16	12
5	15	50	40	32½	20	15
6	18	60	48	39	24	18
7	21	70	56	45½	28	21
8	24	80	64	52	32	24
9	27	90	72	58½	36	27
10	30	100	80	65	40	30
11	33	110	88	71½	44	33
12	36	120	96	78	48	36

SIX COLUMN PLAIN RADIATOR

This radiator furnished in two heights and is designed for use in heating rooms, where a low, short radiator large areas, such as sun parlors and living is required.

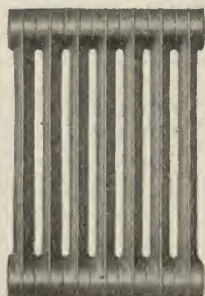


No. of Sections	Length 3-in. per Sec.	HEATING SURFACE—SQUARE FEET	
		20-in. Height 6 sq. ft. per Sec.	17-in. Height 5 sq. ft. per Sec.
2	6	12	10
3	9	18	15
4	12	24	20
5	15	30	25
6	18	36	30
7	21	42	35
8	24	48	40
9	27	54	45
10	30	60	50
11	33	66	55
12	36	72	60

PLAIN COLONIAL PATTERN WALL RADIATOR

Our Colonial wall radiator is of a very neat and pleasing design and is adapted for installation in narrow halls and bath rooms.

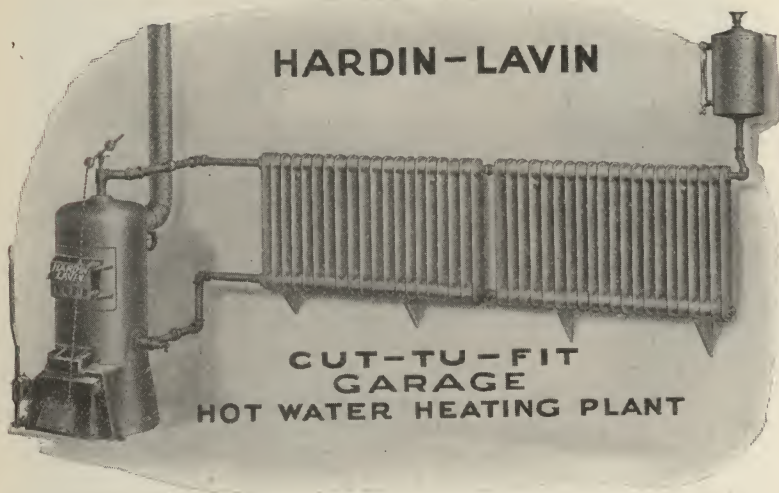
RATINGS AND MEASUREMENTS



7 V. Section

Section Numbers	Height Inches	Length or Width Inches	Thickness With Brackets Inches	Heating Surface Sq. Ft.
5-H	13⅞	16	3¾	5
7-H	13⅞	22	3¾	7
9-H	13⅞	28	3¾	9
7-V	21¼	14	3¾	7
9-V	27½	14	3¾	9

NOTE: All radiators on this page furnished in steam or water in any number of sections. See pages 8-130-161.



L-719 GARAGE HEATING SYSTEM

This compact system is constructed of the best grades of material throughout. It is adapted for installation in private garages where an economical and efficient heating system is desired. Because of its low cost, simplicity, and ease of installation. It is a most practical type of heating system to use. It requires attention only once or twice a day as the automatic regulator maintains an even temperature regardless of weather conditions.

BURNS ANY KIND OF FUEL

Our special built garage boiler with built-in staggered flue travel has a twelve inch rocking and dumping grate. Burns any kind of fuel economically. Indirect fire travel prevents waste of fuel. Height of boiler, 40-inches; width, 20-inches over all.

EASILY INSTALLED. OPERATES AUTOMATICALLY

Entire system consists of our garage boiler, Colonial design, cast iron wall radiators, pipe, fittings, union connections, galvanized expansion tank with gauge set, drain cock, and Automatic Controller. System can easily be installed in a few hours' time by following our simplified blue-print plan. (No smoke pipe furnished).

PRICES AND CAPACITIES

L-719½—One Car Plant Complete List Price.....\$150.00

L-719½—Two Car Plant Complete List Price..... 200.00

Prices on larger plants built to order.

See pages 5-8-130-161.



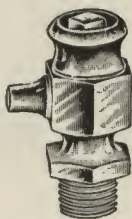
L-720

Nickel Plated automatic brass ground seat air valve with brass float.



L-721

Wood Wheel nickel plated air valve with spout.



L-722

Loose Key, nickel plated hot water air valve with spout.



L-723

Nickel Plated loose key for air valve.

Price each

L-720.	Positive automatic steam air valve.....	\$0.62
L-720.	Positive automatic steam guaranteed air valve.....	.90
L-721.	Steam air valve.....	.20
L-722.	Hot water air valve.....	.20
L-723.	Air valve key.....	.20

OUR SERVICE IS AS VALUABLE TO YOU AS OUR GUARANTEE



L-724

Non-burning bronze and aluminum powder for painting radiators and piping.



L-725

Non-burning radiator enamel for enameling radiators and piping.



L-726

Bronzing liquid to mix aluminum and bronze paint.



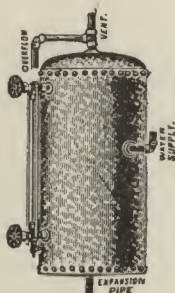
L-727

Camel's hair radiator painting or bronzing brush.

Price each

L-724.	Aluminum bronze in tin sealed. 1-lb. cans.....	\$3.00
L-724.	Gold bronze in tin sealed. 1-lb. cans.....	2.80
L-725.	Best grade radiator enamel, any color, 1/2-gal. cans....	3.30
L-726.	Bronzing liquid in 1 gal. cans.....	2.00
L-727.	Fine camel's hair bronzing brush.....	.70

**BEST GRADE GUARANTEED GALVANIZED STEEL
EXPANSION TANKS**



L-728

Best grade tested and guaranteed galvanized steel expansion tanks with gauge, glass, guard wires and gauge cocks complete.

L-729½—AUTOMATIC REGULATOR

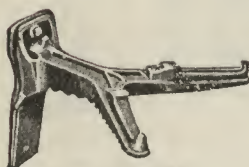


SAVES COAL AND LABOR

This automatic regulator on your hot water heating boiler or tank heater assures you plenty of heat and hot water at all times, day or night, without attention. It automatically controls the fire and prevents waste of fuel. Regulator is of improved, heavy construction, and cannot get out of order.

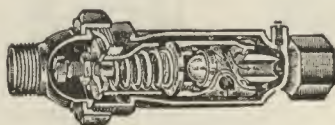
L-729½ AUTOMATIC REGULATOR List Price.....\$25.00

L-728.	8 gal., complete as described.....	\$ 9.90
	10 gal., complete as described.....	11.00
	12 gal., complete as described.....	12.50
	15 gal., complete as described.....	13.50
	18 gal., complete as described.....	14.50



L-730

Hardin - Lavin adjustable strong expansion tank, combination bracket and support. Can be adjusted to fit any expansion tank.



L-731

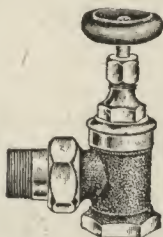
Hardin-Lavin quick hot water heating plant circulator to be installed underneath expansion tank, making a cheap, simple device for a closed hot water heating system. See information on page 163.

L-730. Price complete, as shown.....\$ 2.00

L-731. Price complete, as shown..... 19.50

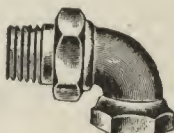
HARDIN-LAVIN STEAM AND HOT WATER RADIATOR VALVES AND UNION ELLS

With our patd. ball ground joint connecting unions that any handy man can install radiators without facing exactly to valves for ball joints will adjust to any ordinary position. These valves have removable bonnets for repairing. Steam valves are fitted with our removable non-heat attacked Jenkin discs with ball bearing stems. All of our valves are solid cast brass, nickel plated.



L-732

Hot water radiator valve.



L-733

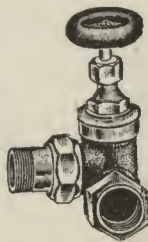
Hot water radiator union ell.

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	1 in.	$1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.	2 in.
L-732. Price complete.....	\$1.20	\$1.36	\$1.76	\$2.40	\$3.56	\$5.40
L-733. Price complete.....	.80	.96	1.20	1.58	2.00	3.20



L-734

Angle steam radiator valve.



L-735

Corner steam radiator valve.

Size	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	1 in.	$1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.	2 in.
L-734. Price complete	\$1.50	\$1.90	\$2.30	\$3.12	\$4.20	\$6.80
L-735. Price complete	3.50	4.30	5.30	7.00	8.90	10.70

Give corner.

HOW to install shut off in low closet outfit. See L-429, page 108.

HOW to prevent sewer gas to lavatory or sink, where there is no vent stack carried through roof. See L-419 to 420, page 106.

HEATING ACCESSORIES



L-736

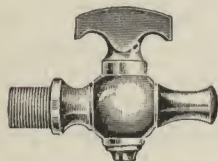
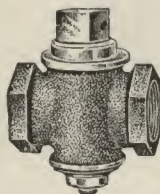
Low pressure automatic dampers steam regulator complete.



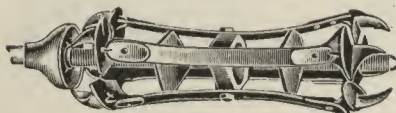
L-737

Crane Co.'s patd. safety fusable plugs for boilers.

Size	1/2 in.	3/4 in.	1 in.
L-736. Price each.....	\$7.60		
L-737. Price each.....	\$0.90	\$1.00	\$1.10

L-738
Pet CockL-739
Steam Try
CockL-740
Brass Square
Head Steam
Cock or Wa-
ter Valve.L-741
N. P. Ad-
justable floor
or ceiling
plates.

Size	1/8 in.	1/4 in.	3/8 in.	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.
L-738. Price	\$0.30	\$0.34	\$0.40	\$0.50	\$0.70				
L-739. Price .....			.90	1.00	1.20				
L-740. Price				1.16	1.30	\$1.50	\$2.30	\$3.00	
L-741. Price .....				.14	.16	.16	.18	.20	.24

L-742
Hardin-Lavin adjustable boiler
flue cleaner and scraper.L-743
Crane Co.'s patd. expansion
joint.

Size	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.	2 1/2 in.	3 in.
L-742. Price each.				\$1.20	\$1.50	\$1.70	\$1.90
L-743. Price each.	\$2.20	\$2.80	\$4.00	5.00	8.00	17.50	24.00

HOW to repair leak in any iron fitting, pipe, boiler, etc. See L-824.

HOW to pack radiator valves. See L-827.

HEATING ACCESSORIES



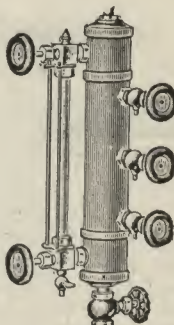
L-744

Gauge glass, guards and cocks for expansion tank or pneumatic tank.



L-745

Gauge glass, guards and gauge cocks for steam heating boiler.



L-746

Water column with gauge cocks and water gauge complete with steam heating boiler.



L-747

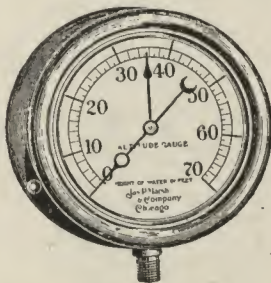
Straight, or angle thermometer for hot water heating plant.

Size	Price	3/8 in.	1/2 in.	3/4 in.
L-744.	Price	...	...	...
L-745.	Price	\$1.50	\$1.80	\$3.00
L-746.	Price	2.40	2.90	3.00
L-747.	Price	\$13.00	...	...
		1.50	...	...



L-748

Steam gauge for low pressure steam boiler, 5 in., 1/4 spud.



L-749

Altitude gauge for hot water heating plant, 1/4 spud.



L-750

Best Scotch gauge glass for expansion or pneumatic tank or steam boiler. Size 1/2 and 3/8 outside diameter.

L-748.	Price each	...	\$2.80
L-749.	Price each	...	3.10
L-750.	Price each	...	.40

Give size and length.

HOW to reduce steam main properly. See L-808.

HOW to install iron pipe waste work in wall or under floor.

See L-811 to 816.

CAST IRON BRANCH TEES FOR MAKING COILS, ETC.



L-751

L-752

L-753

Size	1 in.	1 1/4 in.	1 1/2 in.	2 in.
L-751, L-752, L-753. Price each, 4 branches..	\$1.70	\$2.60	\$4.40	\$7.90
L-751, L-752, L-753. Price each, 5 branches..	1.90	3.00	4.80	8.80
L-751, L-752, L-753. Price each, 6 branches..	2.20	3.50	5.70	10.90
L-751, L-752, L-753. Price each, 7 branches..	2.50	3.90	6.50	12.80
L-751, L-752, L-753. Price each, 8 branches..	2.90	4.50	7.00	13.90
Center to center measurements, 1 in. branch tee, 2 1/2 in. centers.				
Center to center measurements, 1 1/4 in. branch tee, 3 in. centers.				
Center to center measurements, 1 1/2 in. branch tee, 3 1/2 in. centers.				
Center to center measurements, 2 in. branch tee, 4 1/2 in. centers.				



L-754



L-755



L-756

Hook plate Adjustable pipe
for 3/4 to 2-in. pipe. hanger complete.

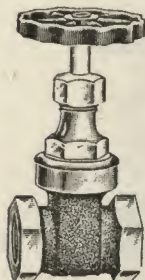
Flange
union.

L-754. 2 hooks. Price each.....	\$0.30
L-754. 3 hooks. Price each.....	.36
L-754. 4 hooks. Price each.....	.40
L-754. 5 hooks. Price each.....	.50
L-754. 6 hooks. Price each.....	.60
L-754. 7 hooks. Price each.....	.70
L-754. 8 hooks. Price each.....	.80
L-755. For 3/4 to 1 1/4 pipe. Price each.....	.14
L-755. For 1 1/2 to 2 1/2 pipe. Price each.....	.20
L-755. For 3 to 4 pipe. Price each.....	.40
L-756. Size	3/4 1 1/4 1 1/2 2 2 1/2 3 3 1/2 4 4 1/2 5
L-756. Price each.....	\$0.34 .40 .48 .58 .72 .90 1.04 1.26 1.48 2.30 2.84

HOW to take connection off steam pipe without cutting pipe.
See L-797.

HOW to install iron pipe supply behind laundry tubs without
crossing pipes. See L-800, L-802.

HARDIN-LAVIN HEAVY CAST BRASS STRAIGHT AND ANGLE GLOBE AND CHECK VALVES WITH GROUND SEATS



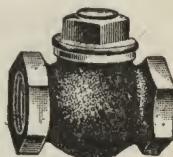
L-757

Straight globe value.



L-758

Angle globe valve.



L-759

Horizontal check
valve.

Size	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 1/4	1 1/2	2	2 1/2
L-757, L-758, L-759. Price each	\$0.70	.76	.84	1.12	1.36	1.92	2.70	3.70	5.70	10.70

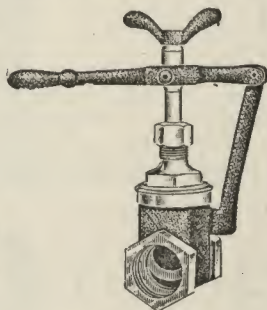
Remember, We Guarantee Satisfaction

HARDIN-LAVIN HEAVY CAST BRASS GROUND QUICK OPENING GATE AND SWING CHECK VALVES



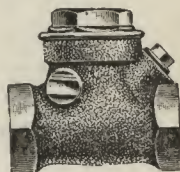
L-760

Gate.



L-761

Quick opening gate.



L-762

Swing check with
adjustments.

Size	$\frac{3}{8}$ in.	$\frac{1}{2}$	$\frac{3}{4}$	1	1 1/4	1 1/2	2	2 1/2	3
L-760. Price each.	\$1.00	\$1.10	\$1.40	\$2.00	\$2.80	\$4.00	\$6.00	\$11.20	\$16.00
L-761. Price each.	.....	.....	3.10	4.40	5.40	7.80	10.00	17.50	25.80
L-762. Price each.	1.80	1.90	2.00	3.00	3.60	4.50	6.50	13.00	18.50

All fitted with removable bonnets for repairing.

HOW to pour horizontal soil stack joint with hot lead. See
L-620.



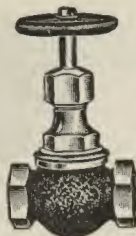
QUALITY

HARDIN-LAVIN CO. CHICAGO.

QUALITY



Hardin-Lavin genuine Jenkin designed heavy cast brass removable disc, straight and angle valves and check valves, all fitted with our latest removable discs, unaffected by heat, with ball bearing stems.



L-763

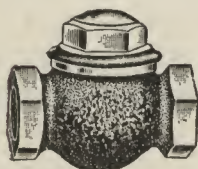
Straight disc valve.



L-764

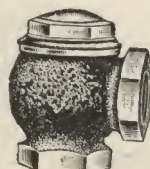
Angle disc valve.

Size, in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-763, L-764. Price each..	\$1.52	\$2.00	\$2.76	\$3.52	\$5.10	\$6.90	\$11.00



L-765

Straight disc check valve.



L-766

Angle disc check valve.

Size, in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-765, L-766. Price each..	\$1.60	\$1.78	\$2.90	\$3.60	\$5.10	\$6.90	\$10.00



L-767

Removable disc with round center.



L-768

Removable disc with oblong center.

Size, in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-767, L-768. Price each..	\$0.16	\$0.18	\$0.18	\$0.20	\$0.24	\$0.30	\$ 0.36

HOW to install power pump jack. See L-828.



L-769

Crane Co.'s heavy cast brass hot water relief valve to prevent over-heating of hot water storage tank or too much pressure on pneumatic water pressure tank.



L-770

Crane Co.'s pressure reducing valve to reduce water pressure from high to low or steam pressure from high to low.

Size	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
L-769. Price each.....	\$7.80	\$7.80	\$8.00	\$9.76	\$11.50	\$17.50	\$28.72	\$46.70
L-770. Price each.....	33.20	36.50	39.30	42.50	45.80	52.00	63.50	73.00

WE WILL HELP YOU PLAN



L-771

Iron body gate valve with ground gate expansion packing box and removable bonnet.



L-772

Crane Co.'s heavy cast brass safety valve for low pressure with sealing attachment. Set at 10 lbs. unless otherwise ordered.

Size	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
L-771. Price each.....	\$12.50	\$13.90	\$16.50	\$20.50	\$23.50

Size	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
L-772. Price each..	\$3.50	\$3.70	\$3.90	\$4.50	\$5.50	\$7.60	\$15.90

HOW to install flat rim sinks without brackets. See L-689,

OUR FIRST GRADE PIPE

Did you ever know that after logs are sawed into lumber they are assorted into three different grades before they leave the mill? First, second and third, and it often happens that these three grades are sawed out of the same log, each one carrying a different price.

Now, the same situation applies to pipe. For instance, all pipe is made from the same grade of iron, and yet there are three grades of pipe, each grade carrying a different price.

The first grade pipe is selected, absolutely evenly rolled, perfectly welded with invisible seams and having the same uniform thickness throughout. Consequently, it is the best and longest lasting.

The second grade varies a little in thickness; it is not evenly rolled and the weld is not quite as good.

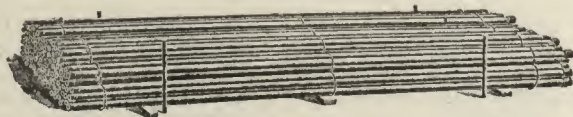
The third grade has various thicknesses; slightly defective seams and uneven on the inside.

Now, none of these defects are visible to the eye. That is, the No. 3 will appear the same to you as the No. 1 unless you are an expert. Therefore, the buyer is at the mercy of the seller.

Our 40 years of square dealing in this same business is sufficient assurance to you that our pipe and, in fact, everything we handle, is of the highest grade and you will find that in buying from us you get value received, unlimited service and absolute satisfaction.

Our Pipe Is Not in Random Lengths. It Measures from 18 to 21 Feet

Pipe



L-773

Size	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{4}$	5
L-772. Price															
per ft. blk.	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	8	12	$16\frac{1}{2}$	$19\frac{1}{2}$	26	$41\frac{1}{2}$	54	67	80	93	1.08
L-773. Price															
per ft. galv.	$3\frac{1}{2}$	9	$9\frac{1}{2}$	11	13	19	$25\frac{1}{2}$	$30\frac{1}{2}$	41	65	$84\frac{1}{2}$	1.04	$1.23\frac{1}{2}$	$1.43\frac{1}{2}$	1.67

Remember, We Guarantee Satisfaction

HOW to install non-scalding shower valve apparatus. See L-282.

HARDIN-LAVIN NIPPLES

Bear in mind that more than 70 per cent of the nipples that are on the market are made out of short pieces of refinished old pipe of different thicknesses or ends of cull pipe.

Our nipples are all made out of the highest-grade, new, perfectly rolled pipe with all seams invisible and threads evenly tapered, with ends reamed, which not only make them lasting, but easy to start and make tight.

Our nipples are priced in two classes: Short, which are from close to three inches, and long, which are from three to six inches.

Nipple.



L-774

Size	Price short black	Price short galv.	Price long black	Price long galv.
$\frac{1}{8}$	\$0.04	\$0.06	\$0.06	\$0.08
$\frac{1}{4}$	.04	.06	.06	.08
$\frac{3}{8}$	.06	.08	.08	.10
$\frac{1}{2}$	.06	.08	.08	.10
1	.08	.10	.12	.14
$1\frac{1}{4}$	.10	.12	.14	.16
$1\frac{1}{2}$	.12	.14	.16	.18
2	.14	.16	.18	.20
$2\frac{1}{2}$	.20	.30	.32	.40
3	.24	.38	.40	.56
$3\frac{1}{2}$	.40	.42	.50	.70
4	.56	.50	.66	.90
$4\frac{1}{2}$	.56	.60	.84	1.10
5	.90	.80	1.80	2.40
6	1.00	1.10	1.90	3.60

LONG SCREW OR RUNNING THREAD UNION CONNECTION



L-775

Size	Length 4 in. price each, black	Length 4 in. Price each, galv.
$\frac{1}{2}$	\$0.36	\$0.42
$\frac{3}{4}$	.40	.52
1	.60	.60
$1\frac{1}{4}$	.80	1.00
$1\frac{1}{2}$	1.00	1.24
2	1.36	1.64

GENUINE MALLEABLE IRON FITTINGS

Our Hardin-Lavin malleable iron fittings are all well heavily formed and have reinforced flat beads surrounding threads, which make them very strong and easy to turn with wrench. Threads are all tapered and ground faced.



L-776
Ell



L-777
45° ell



L-778
St. ell



L-779
45° st. ell

Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Price each, blk.....	\$0.04	\$0.06	\$0.08	\$0.10	\$0.12	\$0.20	\$0.26	\$0.46	\$0.58
Price each, galv.....	.06	.08	.10	.12	.14	.24	.34	.50	.70

Our Service is as Valuable to You as Our Guarantee.



L-780
Tee



L-781
Cross



L-782
Coupling



L-783
Reducing
Coupling

Price each.

Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
L-780. Black	\$0.06	\$0.08	\$0.10	\$0.12	\$0.14	\$0.22	\$0.28	\$0.48	\$0.60
L-780. Galv. ....	.08	.10	.12	.14	.16	.24	.36	.54	.72
L-781. Black .....	.10	.12	.12	.14	.16	.24	.34	.40	.64
L-781. Galv. ....	.12	.14	.14	.16	.26	.30	.42	.58	.76
L-782. Black .....	.04	.06	.06	.08	.10	.14	.18	.24	.32
L-782. Galv. ....	.06	.08	.08	.10	.12	.18	.24	.30	.38
L-783. Black .....	.04	.06	.06	.08	.10	.14	.18	.24	.32
L-783. Galv. ....	.06	.08	.08	.10	.12	.18	.24	.30	.38

HOW to install non-freezing toilets in yard or house. See L-249 to L-252, pages 49 and 50.

HARDIN-LAVIN MALLEABLE FITTINGS, ALL EVENLY FORMED, WITH THREADS TAPERED AND FACE GROUND



L-784
Regular
bushing.



L-785
Faced
bushing.



L-786
Lock
nut.



L-787
Cap.



L-788
Plug.

Size			$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-784.	Price each, black...	\$0.04	\$0.06	\$0.06	\$0.08	\$0.10	\$0.12	\$0.14	\$0.16	\$0.18
L-784.	Price each, galv...	.06	.08	.10	.12	.12	.14	.16	.18	.22
L-785.	Price each, black...	.05	.07	.08	.09	.11	.16	.18	.20	.24
L-785.	Price each, galv...	.07	.09	.11	.13	.14	.19	.20	.24	.28
L-786.	Price each, black...	.04	.06	.06	.08	.10	.12	.16	.20	.28
L-786.	Price each, galv...	.06	.08	.08	.10	.12	.14	.20	.28	.32
L-787.	Price each, black...	.04	.06	.06	.08	.10	.12	.14	.18	.22
L-787.	Price each, galv...	.06	.08	.08	.10	.12	.14	.16	.20	.24
L-788.	Price each, black...	.04	.06	.06	.08	.10	.12	.14	.16	.20
L-788.	Price each, galv...	.06	.08	.08	.10	.12	.14	.16	.20	.24

Size			$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
L-784.	Price each, black...	\$0.24	\$0.36	\$0.48	\$0.54	\$0.70	\$0.86	\$1.10	
L-784.	Price each, galv...	.30	.48	.64	.76	.92	1.04	1.30	
L-785.	Price each, black...	.30	.42	.56	.64	.80	.96	1.20	
L-785.	Price each, galv...	.32	.46	.60	.68	.84	1.00	1.24	
L-786.	Price each, black...	.32	.40	....	....	....	....	....
L-786.	Price each, galv...	.36	.44	....	....	....	....	....
L-787.	Price each, black...	.24	....	....	....	....	....	....
L-787.	Price each, galv...	.28	....	....	....	....	....	....
L-788.	Price each, black...	.24	.30	.36	....	....	....	....
L-788.	Price each, galv...	.28	.36	.42	....	....	....	....



L-789
Malleable
union.



L-790
Railroad ground
joint brass faced
union.



L-791
Malleable right and
left coupling.

Price each.

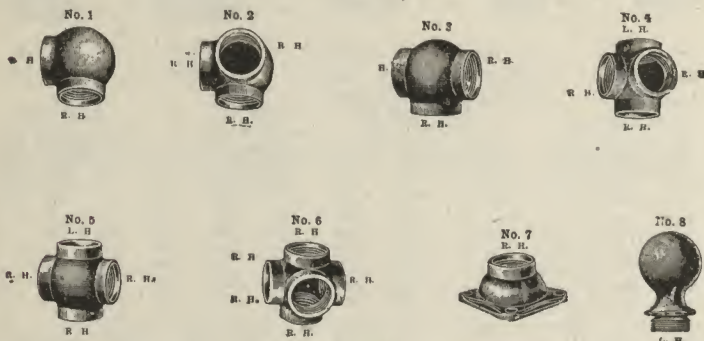
Size		$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-789.	Black	\$0.20	\$0.20	\$0.20	\$0.20	\$0.24	\$0.30	\$0.50	\$0.62	\$0.72
L-789.	Galv.	.24	.24	.26	.30	.40	.50	.65	.72	.90
L-790.	Black	....	.40	.46	.58	.76	.88	1.26	1.50	2.30
L-790.	Galv.	....	.48	.56	.70	1.04	1.10	1.52	2.10	2.60
L-791.	Black	.08	.08	.08	.10	.14	.16	.24	.28	.32
L-791.	Galv.	.10	.10	.10	.12	.16	.18	.28	.32	.36

HOW to install shut-off boxes above valve in water supply outside of building that same can be turned on and off from above ground. See L-682.

HOW to install iron traps under sinks or laundry tubs. See L-684 to L-688.

HARDIN-LAVIN MALLEABLE RAILING FITTINGS

All well formed, with threads tapered and face ground. R. H. means right hand thread and L. H. means left hand thread. Order by number.



L-792

Size		$\frac{1}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
L-792.	No. 1, price, black.....	\$0.18	\$0.22	\$0.26	\$0.42	\$0.52
L-792.	No. 1, price, galv.....	.28	.34	.40	.66	.78
L-792.	No. 2, price, black.....	.24	.28	.32	.46	.62
L-792.	No. 2, price, galv.....	.36	.42	.48	.70	.94
L-792.	No. 3, price, black.....	.24	.28	.32	.46	.62
L-792.	No. 3, price, galv.....	.36	.42	.48	.70	.94
L-792.	No. 4, price, black.....	.34	.44	.42	.54	.68
L-792.	No. 4, price, galv.....	.52	.66	.64	.82	1.02
L-792.	No. 5, price, black.....	.34	.44	.42	.54	.72
L-792.	No. 5, price, galv.....	.52	.66	.64	.82	1.08
L-792.	No. 6, price, black.....	.42	.46	.46	.62	.80
L-792.	No. 6, price, galv.....	.66	.70	.70	.80	1.20
L-792.	No. 7, price, black.....	.20	.22	.24	.48	.62
L-792.	No. 7, price, galv.....	.30	.34	.36	.72	.94
L-792.	No. 8, price, black.....	.20	.22	.24	.32	.42
L-792.	No. 8, price, galv.....	.30	.34	.36	.48	.66



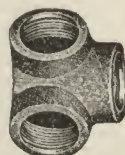
L-793
Malleable ex-
tension fitting.



L-794
Malleable rod
clamp tapped
 $\frac{3}{8}$ and $\frac{1}{2}$ in.



L-795
Malleable tee
with side out-
let.



L-796
Malleable ell
with side out-
let.

Size		$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
L-793.	Price each, black.....	\$0.10	\$0.12	\$0.14	.....	.....	.....	.....
L-793.	Price each, galv.....	.12	.14	.16	.....	.....	.....	.....
L-794.	Price each, black.....	.16	.18	.....	.....	.....	.....	.....
L-794.	Price each, galv.....	.20	.24	.....	.....	.....	.....	.....
L-795.	Price each, black.....	.16	.20	.24	\$0.40	\$0.48	\$0.68	\$1.24
L-795.	Price each, galv.....	.18	.24	.28	.44	.54	.86	1.44
L-796.	Price each, black.....	.14	.16	.22	.36	.42	.72	1.20
L-796.	Price each, galv.....	.16	.20	.28	.42	.50	.80	1.40

HARDIN-LAVIN GENUINE MALLEABLE SPECIAL FITTINGS



L-797

Adjustable pipe saddle. Give tapping wanted.



L-798

Return bend. Give center to center measurements.



L-799

Offset pipe fitting. Give offset wanted.

Price Each

Size	..... 1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
L-797.	.....	.....	.....	.....	\$0.90	\$1.00	\$1.20	\$1.30	\$1.50	\$1.70
L-798. Blk..	\$0.24	\$0.34	\$0.56	\$0.70	.98	1.44	2.26	3.44	...	...
L-798. Gal..	.32	.50	.80	1.08	1.44	2.30	4.00	5.74	...	...
L-799. Blk..	...	.30	.48	.88	...	...	...	...	.....	.....

Our Service is as Valuable to You as Our Guarantee.



L-800

Cross over fitting.



L-801

Ell with Lugs.



L-802

Laundry tub supply fittings.



L-803

Drop street ell.

Size	.....	3/8	1/2	3/4	1
L-800.	Price each, black.....	...	\$0.24	\$0.34	\$0.50
L-800.	Price each, galv.....	...	.32	.46	.70
L-801.	Price each, black.....	\$0.10	.14	.24	...
L-801.	Price each, galv.....	.14	.24	.40	...
L-802.	Price each, black.....	...	...	...	...
L-802.	Price each, galv.....	...	.24	.34	...
L-803.	Price each, black.....	.10	.22	...	...
L-803.	Price each, galv.....	.22	.32	...	...

HOW to prevent water from backing up into basement floor drains. See L-667.



QUALITY

HARDIN-LAVIN CO. CHICAGO.

QUALITY



GENUINE GRAY CAST IRON FITTINGS

Hardin-Lavin heavily cast fittings, with large, wide, flat beads on ends, which make them very easy to turn with wrench. All tapered threads and smoothly cast throughout. We make these fittings regular and reduced, same prices.



L-804

El.



L-805

45° El.



L-806

Tee.



L-807

Cross.

Size	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
L-804, L-805. Price each.....	\$0.06	\$0.08	\$0.10	\$0.14	\$0.16	\$0.24	\$0.32
L-806. Price each.....	.08	.10	.10	.16	.26	.32	.48
L-807. Price each.....	...	.18	.26	.32	.50	.64	.90
Size	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6
L-804, L-805. Price each.....	\$0.58	\$0.90	\$1.28	\$1.44	\$2.10	\$2.40	\$3.36
L-806. Price each.....	.88	1.34	1.82	2.12	3.10	3.60	4.80
L-804. Price each.....	1.54	2.40	3.24	3.76	6.52	6.60	8.70

HOW to install non-freezing hydrant. See L-357, page 94.



L-808

Eccentric reducing coupling. Give both sizes.



L-809

Floor range.



L-810

Reducing coupling. Give both sizes.

Size	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
L-808. Price each.....	...	...	...	...	\$0.66	\$0.80	\$1.20
L-809. Price each.....	\$0.12	\$0.20	\$0.24	\$0.28	.28	.32	.44
L-810. Price each.....	...	...	...	...	.30	.36	.48
Size	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6
L-808. Price each.....	\$1.82	\$2.88	\$3.60	\$4.80	\$6.00	\$7.20	\$9.60
L-810. Price each.....	.84	1.30	1.80	2.10	2.24	2.40	3.30

Remember, We Guarantee Satisfaction.

HOW to reduce any fitting, with an invisible bushing. See L-785.

HOW to make iron pipe fences. See L-792.

GENUINE GRAY CAST IRON DRAINAGE OR LONG SWEEP FITTINGS

Hardin-Lavin drainage fittings are all evenly and heavily cast with large, broad beads on ends that same can be turned easily with wrench; with long, deep tapered threads. We make these regular and reduced, same prices.



L-811
Ell.



L-812
45° Ell.



L-813
Sanitary tee.

Size	1¼	1½	2
L-811, L-812. Price each.....	\$0.36	\$0.46	\$0.52
L-813. Price each.....	.44	.52	.72

Our Service is as Valuable to You as Our Guarantee.



L-814
Regular tee.



L-815
Y.



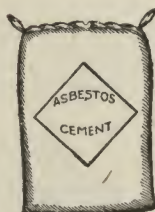
L-816
Sanitary cross.

Size	1¼	1½	2
L-814, L-815. Price each.....	\$0.42	\$0.50	\$0.60
L-816. Price each.....	.56	.60	.90

If at any time you want any information, consult our Free Service Department.

HOW to make roof tight around stack. See L-667.

HOW to install lawn sprinkler or street washer. See L-680.



L-817

Asbestos cement for covering heating pipes, boilers, etc. Furnished in 100-lb. sacks.



L-818

Mineral wool for protecting pipes against frost, sound deadening, etc. Furnished in 50-lb. sacks.



L-819

Asbestos mill board for fire protection, etc. Give size and thickness wanted.

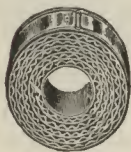
L-817. Price per sack.....\$3.00

L-818. Price per sack..... 2.30

L-819. Prices on application according to thickness and size.

PIPE COVERING

Our Hardin-Lavin pipe covering is all well and evenly made with uniform thickness throughout. A very necessary factor. Is furnished in three-foot lengths with wide, over-lapping cloth wrapper and sufficient patented clasp bands to hold firm on pipe.



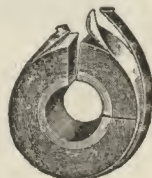
L-820

Deep 3-ply corrugated air cell pipe covering for heating pipes.



L-821

Genuine 85 per cent magnesia pipe covering for high pressure steam work. Average 1 in. thick.



L-822

Genuine all wool felt pipe covering for protecting pipes against freezing and pipe covering in general.

Sizes to fit pipe.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
L-820. Price per foot.....	\$0.04	\$0.09	\$0.09 $\frac{1}{2}$	\$0.10 $\frac{1}{2}$	\$0.11 $\frac{1}{2}$
L-821. Price per foot.....	.19	.20 $\frac{1}{2}$	.23	.25 $\frac{1}{2}$	.28
L-822. Price per foot.....	.09 $\frac{1}{2}$	.09 $\frac{1}{2}$	.10	.11	.12
Sizes to fit pipe.....	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
L-820. Price per foot.....	\$0.12 $\frac{1}{2}$	\$0.14	\$0.16	\$0.17 $\frac{1}{2}$	\$0.21
L-821. Price per foot.....	.30 $\frac{1}{2}$	.34 $\frac{1}{2}$	.36 $\frac{1}{2}$	.42	.51 $\frac{1}{2}$
L-822. Price per foot.....	.13	.14 $\frac{1}{2}$	.17	.18 $\frac{1}{2}$	.21 $\frac{1}{2}$



L-823

Genuine Crane Co.'s pipe thread cement, suitable for all pipe threads. Makes tight joints, but never bakes.



L-824

Genuine Smooth-on iron cement to repair any broken casting or iron of any kind. Furnished in 1-lb. cans.



L-825

Best grade H. L. red sheet packing. Furnished in all thicknesses.

L-823.	Price per lb.	\$0.50
L-824.	Price per lb.	1.00
L-825.	Price per lb. Give thickness.	1.20

First, We Give Quality, Then Service.



L-826

Pure soft evenly wound heavy candle wicking for packing valves, etc.



L-827

Genuine pure perfectly and evenly wound asbestos wicking for packing valves, etc.

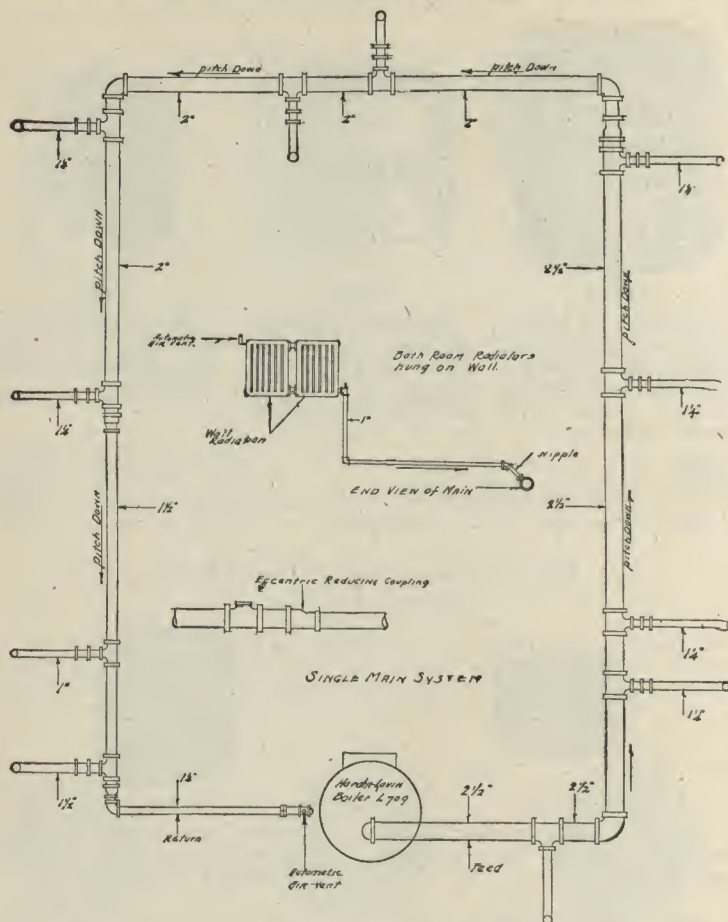
L-826.	Price per ball.	\$0.20
L-827.	Price per ball. ....	.30

HOW to take connection off of high pressure steam pipe for low pressure heating. See L-770.

HOW to prevent riser in tall office building or hotel from expanding. See L-743.

HOW to connect up radiator with easy ball joint union adjustable connection. See L-732 to L-735.

HOW to automatically keep cellars or basements dry where there is no sewer connection or same is excavated below sewer. See L-616.



Single main steam system where boiler is placed in one end of building. In reducing steam main, be sure that eccentric reducing coupling is used. This prevents pockets in the return.

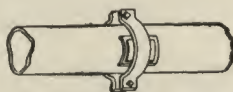
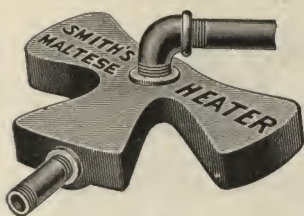


Illustration shows our home-made handy man repair for steam or water. Use fairly heavy band iron clamps and small piece of rubber packing to cover leak and screw down clamps tight and you will have a good, permanent repair.



L-824



L-824 1/2—Continued

L-824. Clover-leaf hot water heating apparatus, which can be installed in any hot air furnace; is very economical to operate as well as a quick heating device. Is suitable to heat two or three rooms in your home, which are not properly heated with your hot air plant. You can either use radiators or pipe coils in connection with this apparatus. We make these in several different sizes, single and double.

Diameter	9 in.	12 in.	18 in.
Tapping	3/4 in.	1 in.	2 1/2 in.
Height	2 in.	2 1/2 in.	3 in.
Capacity	30 ft.	50 ft.	100 ft.
Price each,			
single	\$5.00	\$7.20	\$15.50
Price each,			
double	10.00	14.40	31.00

HINTS FOR ESTIMATING

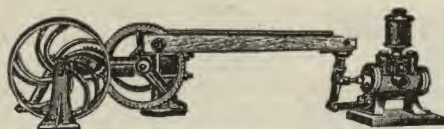
In estimating heating jobs, do not forget the following:

Hot Water

Boiler
Radiator
Pipe and fittings
Rad. valves and union ells
Compression air valves
Expansion tank and gauge
Altitude gauge
Thermometer
Smoke pipe
Foundation
Boiler covering
Pipe covering
Bronzing
Cartage
Freight
Floor and ceiling plates
Water connection
Labor
Incidentals

Steam

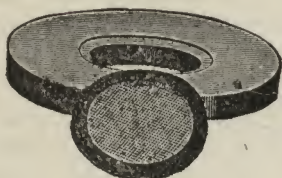
Boiler
Radiator
Pipe and fittings
Radiator valves
Automatic air valves
Smoke pipe
Foundation
Boiler covering
Pipe covering
Bronzing and painting
Cartage
Freight
Floor and ceiling plates
Water connection
Incidentals
Labor



L-828A

Power pump jack to be used in connection with gasoline engine or electric power motors

L-828A. Price.....\$13.50



L-828B

Heavy reinforced concrete catch basin cover with heavy 18 in. cast iron lid.

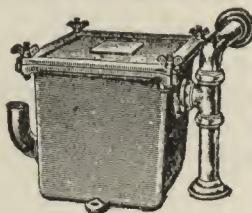


L-828C

Extra heavy manhole cover with heavy cast iron non-slipping lid for street catch basins, etc. Diameter of lid, 22 in.

Size		2½ ft.	3 ft.
L-828B.	Price complete.....	\$3.60	\$ 4.40
L-828C.	Price complete.....		25.50

WHITE ENAMELED KITCHEN SINK GREASE TRAP



L-828D

L-828D. Highest-grade porcelain enameled grease trap, suitable for hotels, large homes, etc. This trap will prevent any grease or rubbish from entering sewer; furnished complete with N. P. brass connections as shown; all fitted throughout with our Hardin-Lavin easy adjustable iron pipe connections.

Price complete.....\$22.30

Remember We Guarantee Satisfaction.

HOW to install ice box trap. See L-666.

Our Service is as Valuable to You as Our Guarantee.

Fig #1

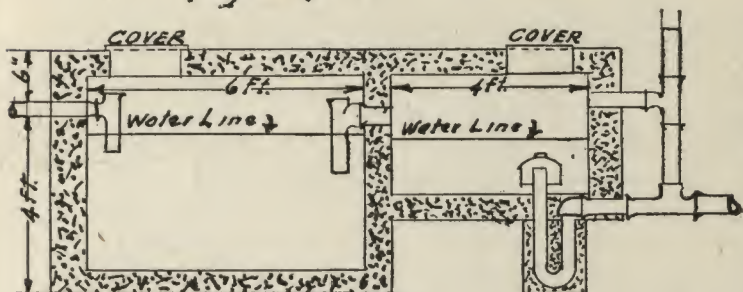


Fig #2

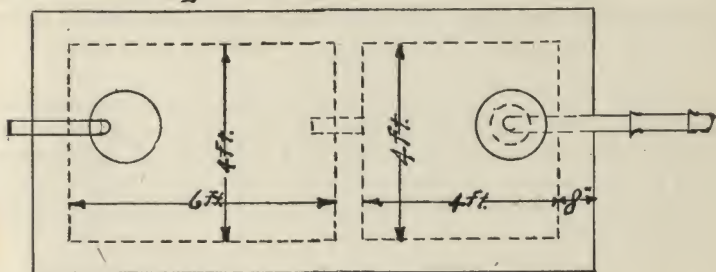
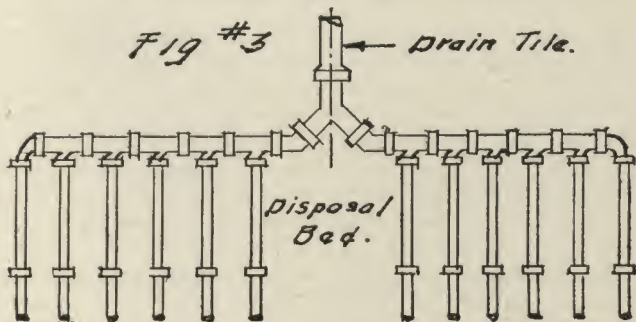


Fig #3



DISPOSAL DRAINAGE SYSTEM FOR COUNTRY HOMES, ETC.

Figure 1 shows a center view of a practical cess pool, which can be built with bricks or concrete.

Figure 2 shows a view of this from above.

Figure 3 shows a tile disposal bed.

We claim that this is one of the most durable and sanitary disposal drainage systems. Notice our vent pipe leading to top of ground is outside of syphon. This should have a perforated cover.

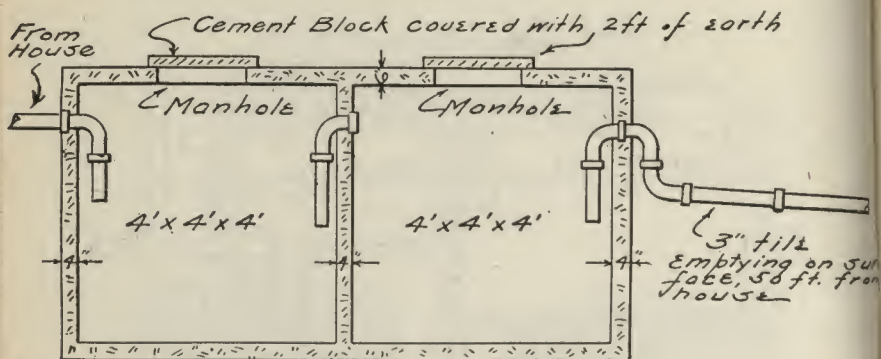


Diagram of Septic Tank Showing Inlet and Outlet Pipes and Sizes of Compartments

L-909

L-909. Shows simple, practical, handy-man made septic sewerage disposal tank. If interested in this or any other septic sewerage system write to our service department, which will furnish you with all information pertaining to this or any other known septic sewerage tank system, free of charge. State what particular design you have in mind.

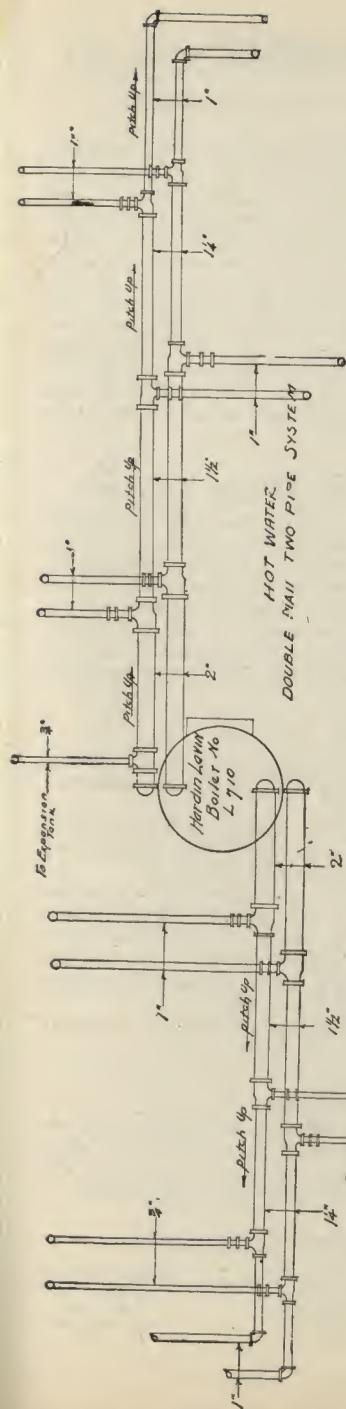
FIRING HEATING PLANTS

In many cases where the water leaves the steam heating boiler and goes into the radiators the trouble is caused by improper firing. The steam gets low from neglect or over night and the operator, desiring to get quick results, opens the ash pit door and, with a strong draft in chimney, it urges up the fire too quickly, which causes the water to boil so that it lifts or syphons out of boiler. The ash pit door should only be opened for the removal of ashes. The draft door is sufficient to supply the air necessary for combustion.

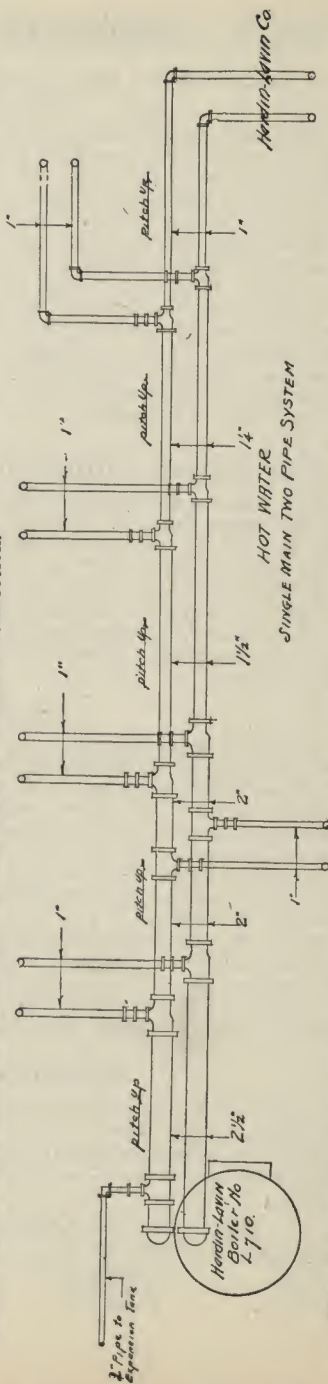
In firing any heating boiler, hot water or steam boiler, be sure that the grate is entirely covered with live coals, for, if ashes or clinkers accumulate on sides of grates, you will get practically no results from your boiler. If you desire to check the fire for mild weather, cover up entire fire with fine coal and slightly open check damper. Never allow ashes to accumulate under grate, as this will burn out grates quickly.

HOW to install closet outfit without the use of tank. See L-243.

Remember, We Guarantee Satisfaction



This hot water double main two pipe system should be used where boiler can be set towards the middle of basement. Notice mains are reduced one size beyond each riser or radiator connection.



This hot water single main two pipe system can be used where boiler is placed in one end of building. Be sure all hot water mains and returns pitch up towards the radiators.

GOOD PIPING SUGGESTIONS FOR HOT WATER HEATING

In a one-pipe system the highest point in the main is directly over the boiler, and from this point it continues the same size and pitched down until it makes the circuit of the building, next to the return inlet of the boiler. If fitted with regular fittings the flow should be taken from the top and the return from the side of main. **In a two-pipe system** the highest return rises from boiler to radiator, the lowest point being at boiler and the highest point at the end of the main. These pipes may be reduced as the branches are taken off, care being taken not to reduce too rapidly. Each radiator should be fitted with a hot water radiator valve, union elbow and a good loose key compression air valve. All pipes should be well supported, so that no pockets or depression will occur to retard or trap the circulation. All mains, both for steam and hot water, should run about 4 feet from wall to allow for expansion.

GOOD PIPING SUGGESTIONS FOR STEAM HEATING

In a one-pipe steam system the highest point in the main is directly over the boiler, and from this point it pitches down around the circuit until it drops to the floor or enters the boiler. The more pitch the better, but at least one inch in 20 feet. The lowest point in the steam main, where it drops to enter the boiler or to the floor, should not be less than 14 inches above water line of boiler and the more the better.

Branches for radiators should be taken from top of main, using a nipple and elbow or a nipple and a 45-degree ell, and should pitch up to the radiator.

BRANCHES

Connections for steam should never be taken from side of main, as this will cause water hammer and syphoning of the water of condensation in the steam main up into the radiator.

Each radiator should be supplied with a Jenkin's Disc radiator valve and a good automatic air valve, and each return main should also have an automatic air valve where it drops to enter boiler.

If branches are longer than 8 or 10 feet same should be one size larger than the upright connecting pipes. Where main drops to floor as shown in sketches, a pipe two sizes smaller can be used to return to boiler. Risers for either steam or water should be plumb and straight and if exposed in a room, and it is necessary to use couplings on same, the couplings should be at a uniform height from floor.

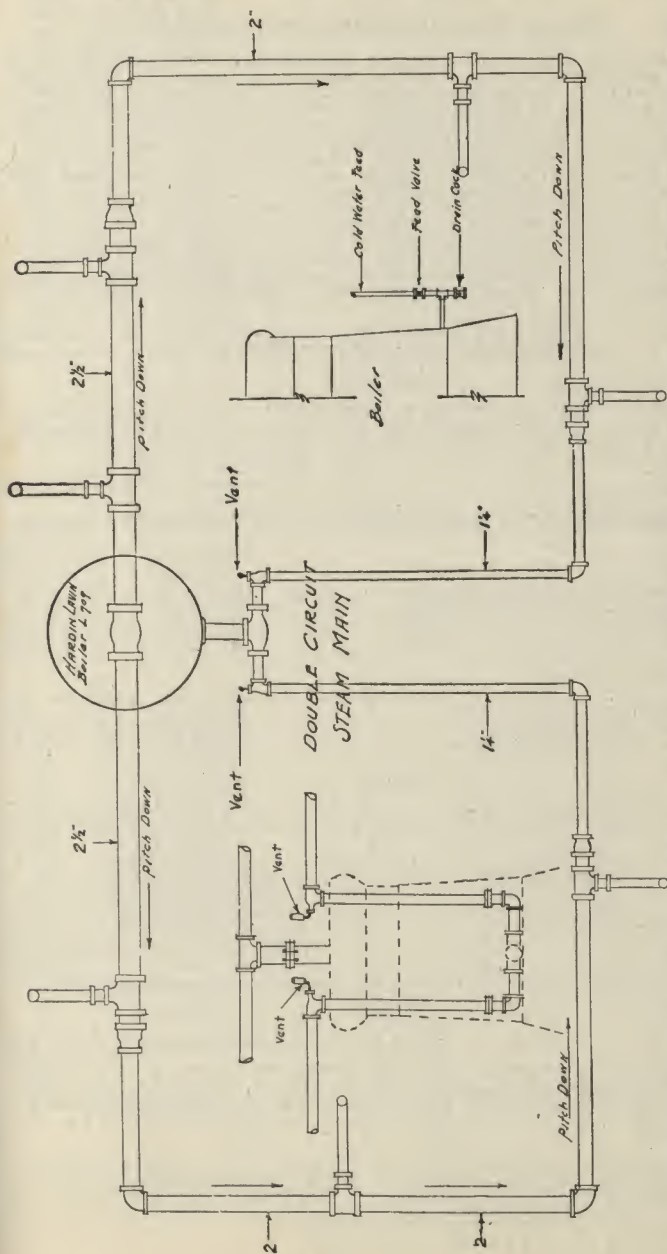
The valve on a steam radiator should be either wide open or tightly closed in order to prevent radiator filling with water.

CLEANING BOILERS

All steam boilers should be blown off within a week after they are installed and in operation. If one blowing off does not result in a clean gauge glass, proper generation of steam and a steady water line, the boiler should be blown off a second, and, if necessary, a third time.

SIZE OF EXPANSION TANKS REQUIRED

Sq. ft. rad'n.	Capacity tank	Sq. ft. rad'n.	Capacity tank
200	8 gallons	500	15 gallons
300	10 gallons	600-800	18 gallons
400	12 gallons	800-1,000	24 gallons



This double circuit steam main system can be used where boiler is placed towards the middle or at one end of the basement and will give quick circulation of dry steam to the radiators. Give mains and returns plenty of pitch or drop as shown by arrows. Be sure to use eccentric reducing tees or couplings when reducing mains. See our single circuit steam main system, page 184 of this book.

RULES FOR FIGURING RADIATION

Because of different conditions surrounding the installing of a heating apparatus, it is impossible to give any set rule that can be accepted without modification for all kinds of buildings to be heated. It is necessary to take into consideration all of the conditions in and around any building and additions or deductions made to suit the requirements, no matter what rule may be used for figuring.

Many contractors make the error of installing a too small amount of radiation. A little extra surface will give greater economy and insure a first-class working system as well as a pleased owner. An apparatus of ample size can be regulated to give economy, which cannot be done if the apparatus is too small and requires forcing.

The following rules have been in general use for some time, but are not guaranteed. By using these rules and providing for additional radiation on the cold sides of building and making allowance for poor construction, loose fitting windows, doors, etc., good results will be obtained:

FOR STEAM AND WATER HEATING

Rule No. 6

As this method of figuring only considers the cubical contents of space to be heated, some experience in heating is required to determine the proper factor to be used for different conditions. The exposed wall and glass surface varies the amount of radiation to be used.

ONE SQUARE FOOT OF DIRECT RADIATION WILL HEAT

Dwellings—	Cubic ft. by hot water	Cubic ft. by steam
Living rooms, one side exposed.....	25 to 30	45 to 50
Living rooms, two sides exposed.....	20 to 30	40 to 50
Living rooms, three sides exposed.....	20 to 25	35 to 45
Sleeping rooms.....	30 to 40	50 to 60
Halls and bathrooms.....	20 to 30	40 to 50
Public Buildings—		
Offices	30 to 50	50 to 75
School rooms.....	20 to 30	55 to 80
Factories and stores.....	40 to 60	80 to 100
Assembly halls and churches.....	60 to 80	100 to 125

Rule No. 7

One square foot of radiating surface for each 2 sq. ft. of glass and for each 20 sq. ft. of exposed outside wall and each 200 cubic ft. of space.

EXAMPLE—A given room has 60 sq. ft. of glass, 220 sq. ft. of exposed wall and 2,000 cubic ft. of air. (Room is on first floor.)

Glass $60 \div 2 = 30$ sq. ft. of radiation
Walls $220 \div 20 = 11$ sq. ft. of radiation
Cubical contents..... $2,000 \div 200 = 10$ sq. ft. of radiation

Total 51 sq. ft. of radiation

Above figures are for steam. For water (in accordance with accepted standards) add 65%.

Rule No. 8

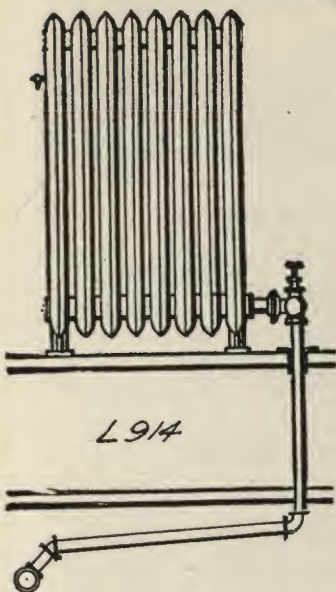
Rule.—Add the area of the glass surface in the room to $\frac{1}{4}$ of the exposed wall surface and to this add from 1-55 to 3-55 of the cubical contents (1-55 for rooms on upper floors; 2-55 for rooms on first floor and 3-55 for large halls); then for steam multiply by .25 and for hot water by .40.

EXAMPLE—A room 20x12x10 ft. with glass exposure of 48 ft., $\frac{1}{4}$ of wall exposure (two sides exposed), 320 ft. = 80, 1-55 of 2,400 = 44.
 $48 + 80 + 44 = 172 \times .25 = 43$ feet for steam.

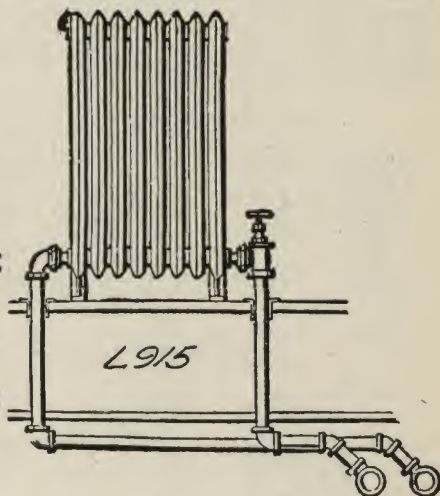
If you add 2-55 the surface will be 54 ft.

If you add 3-55 the surface will be 65 ft.

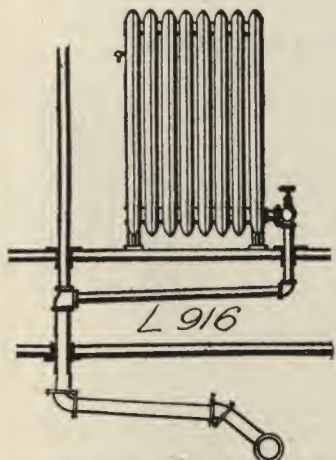
Corrections should be made as in Rule 6.



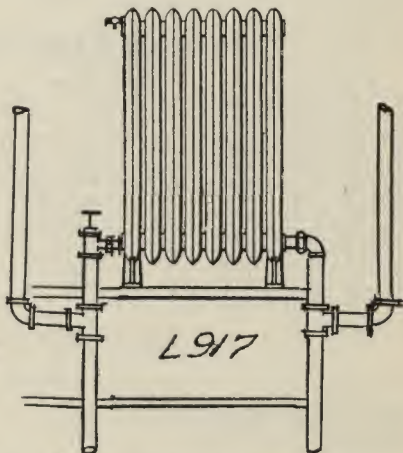
L-914. Showing proper method to connect steam main in basement with steam radiator on first floor.



L-915. Showing proper method of connecting hot water main and return in basement with hot water radiator on first floor.



L-916. Showing proper method to connect steam main in basement with steam radiator on first floor, carrying steam riser or supply to second floor.



L-917. Showing proper connections to hot water radiator on first floor with riser and return carried to second floor.



SIZES OF PIPES

For steam, main can be determined by taking the total amount of direct radiation to which add 25 per cent for piping and from this total extract the square root, dividing same by 10, which gives the size of main to use. This is for one-pipe work. For two-pipe work one size less is sufficient and the return can be one or two sizes less than the supply. A steam main should not decrease in size according to the area of its branches but very little.

LIST OF SIZES OF STEAM MAINS

Radiation square feet	One-pipe work, inches	Two-pipe work, inches	Radiation square feet	One-pipe work, inches	Two-pipe work, inches
125	1½	1¼ x 1	2,050	5	4½ x 4
250	2	1½ x 1¼	2,500	6	5 x 4½
400	2½	2 x 1½	3,600	7	6 x 5
650	3	2½ x 2	5,000	8	7 x 6
900	3½	3 x 2½	6,500	9	8 x 6
1,250	4	3½ x 3	8,100	10	9 x 6
1,600	4½	4 x 3½			

SIZES FOR HOT WATER MAINS

Radiation, square ft.	Pipe, inches	Radiation, square ft.	Pipe, inches
75 to 125	1¼	950 to 1,200	4
125 to 175	1½	1,200 to 1,575	4½
175 to 300	2	1,575 to 1,975	5
300 to 475	2½	1,975 to 2,375	5½
475 to 700	3	2,375 to 2,850	6
700 to 950	3½		

In hot water flow mains may be reduced in size in proportion to the branches taken off. They should, however, have as large areas as the sum of all branches beyond that point. Returns should be same as flows.

TABLES OF MAINS AND BRANCHES

Mains—	Branches—
1 in. will supply 2	¾ in.
1¼ in. will supply 2	1 in.
1½ in. will supply 2	1½ in.
2 in. will supply 2	1½ in.
2½ in. will supply 2	1½ in. and 1 1¼ in. or 1 2 in. and 1 1½ in.
3 in. will supply 1 2½ in. and 1 2 in.	1 1½ in.
3½ in. will supply 2 2½ in. or 1 3 in. and 1 2 in.	3 2 in.
4 in. will supply 1 3½ in. and 1 2½ in.	4 2 in.
4½ in. will supply 1 3½ in. and 1 3 in.	1 2½ in.
5 in. will supply 1 4 in. and 1 3 in.	1 2½ in.
6 in. will supply 2 4 in. and 1 3 in.	10 2 in.
7 in. will supply 1 6 in. and 1 4 in.	1 2 in.
8 in. will supply 2 6 in. and 1 5 in.	2 2 in.

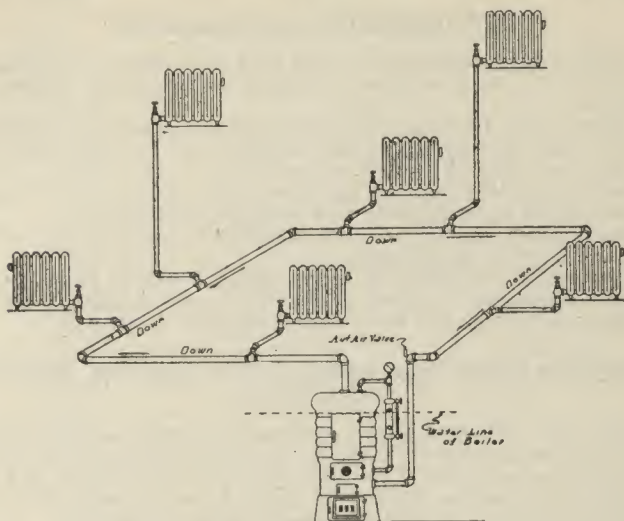
RADIATOR TAPPINGS

Steam

	One pipe
Up to and including 24 feet.....	1 in.
From 24 to 60 feet.....	1¼ in.
From 60 to 100 feet.....	1½ in.

Hot Water

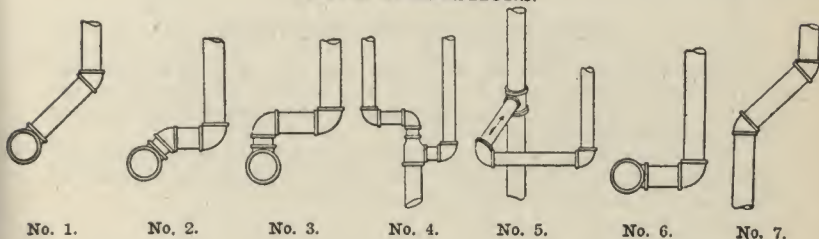
	Double pipe
Up to and including 40 feet.....	¾ in.
From 40 to 72 feet.....	1 in.
Above 72 feet.....	1¼ in.



L-918

L-918. Showing steam boiler in basement with one circuit main properly connected to radiators on first and second floors. Note.—Have all risers and branches pitched or drained toward main. Have main pitched or drained down from boiler.

PIPING SUGGESTIONS.



L-918 $\frac{1}{2}$

L-918 $\frac{1}{2}$. Showing various pipe suggestions. No. 1, 2 and 3 shows suitable connections for steam or water between main and risers or radiators; No. 4 shows hot water connection from risers to radiators; No. 5 shows steam connection from risers to radiator; No. 6 connection should not be used between main and riser or radiator for water or steam; No. 7 shows 45 degrees offset connection.



INFORMATION ON BRONZING

Allow 1 pound gold bronze for each 250 square feet radiation.

Allow $\frac{1}{2}$ pound aluminum bronze for each 150 square feet radiation.

Allow 1 quart bronze liquid for each 150 square feet radiation.

If a coat of priming (applied without oil) is used, only about half the above quantities will be required.

Do not leave bronzing liquid uncorked when not in use, as exposed to the air it thickens and becomes worthless.

Do not get any bronze into the liquid can, as even a small quantity turns the liquid green.

Use a clean mixing can and a clean brush if good work is desired. Endeavor to cover surface with one stroke of brush if possible; do not work it more than absolutely necessary.

INFORMATION FOR APPLYING ASBESTOS BOILER COVERING

Our pure asbestos boiler covering, as listed on page 182, is very adhesive and one of the best non-conductors of heat known. It is very easily applied if the following simple rules are followed:

Asbestos covering should be applied to the boiler when the surfaces are warm. It will not adhere to a cold surface.

For the first coat mix the asbestos with water and apply to the surface of the boiler without regard to securing a smooth surface. It may be applied with a trowel or it may be thrown against the surface of the boiler.

After the first coat has set perfectly hard apply the second coat with a trowel, bringing this to a smooth surface. A fine skin coat or surfacing finish can be secured by mixing one-half plastic asbestos and one-half Portland cement. A coat of white lead and oil paint will give added protection and make a surface which can be easily washed off.

INFORMATION ON CHIMNEYS

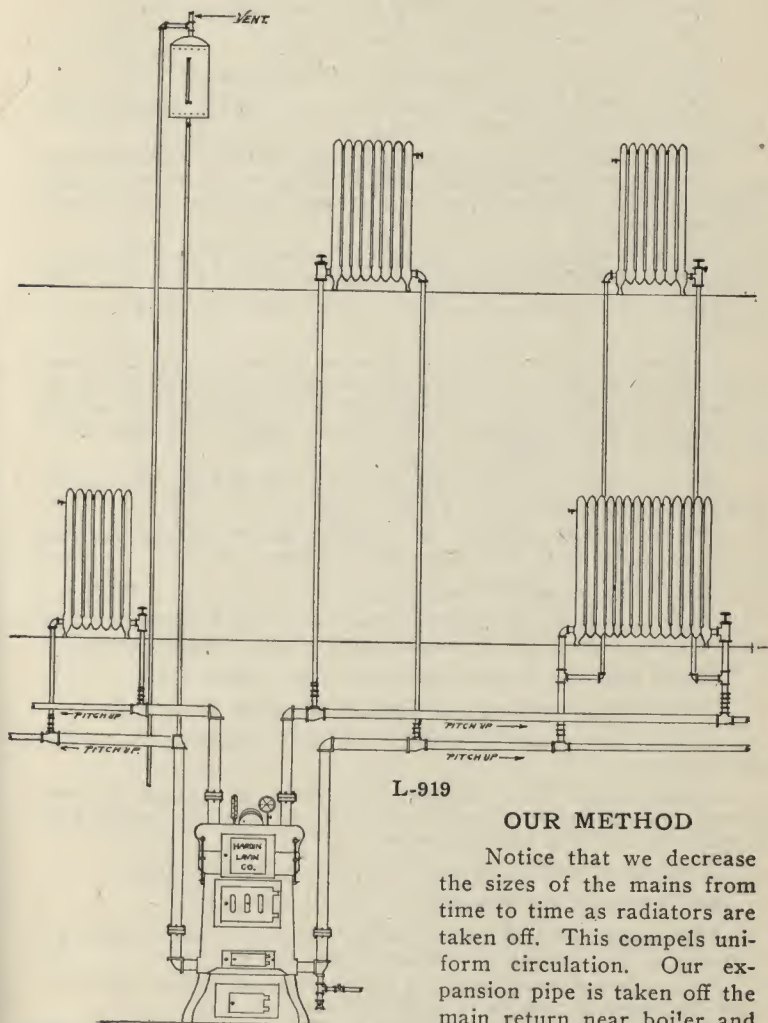
Chimney flues must be of ample size and should be straight from near the cellar floor to above the highest projection of the roof. A square, brick flue is preferable to a rectangular on account of the greater friction in the latter.

The flue should be absolutely independent of all connections except the one at the heater. The following rule is considered fairly safe as a guide in average conditions.

Square feet Steam radiation	Square feet Water radiation	Size of flue
200 to 300	400 to 600	8x 8
350 to 700	650 to 1000	8x12
750 to 1200	1050 to 2100	12x12
1250 to 2000	2200 to 3400	12x16
2100 to 3000	3500 to 5000	16x16

All chimneys larger than 12x16 should be fifty feet high or over; if not, a larger size will be necessary.

Never connect boiler to a flue having less than 6x6-inch inside dimension.



L-919

OUR METHOD

Notice that we decrease the sizes of the mains from time to time as radiators are taken off. This compels uniform circulation. Our expansion pipe is taken off the main return near boiler and

runs to expansion tank, bringing overflow back into basement.

Most firms to save material connect tank to top floor radiator, carrying overflow to roof or bathtub.

In all of our products, our aim is to give the biggest value for your money and practical satisfaction.



A FEW APPROXIMATE HEATING RULES

Add 33⅓% to water rating for tank rating.

Deduct 25% from tank rating for water rating.

Add 65% to steam rating for water rating.

Deduct 40% from water rating for steam rating.

Under normal market conditions Hot Water Heating costs about 30% more than steam.

Under favorable conditions one square inch of grate is sufficient for one square foot of direct steam radiation in medium sized heaters, which radiation may be increased in larger and reduced in smaller heaters.

Divide the area of the grate by 8 to 10 for area of flue. No flue should be less than 6x6 or 7 inches round.

Doubling the diameter of a pipe increases its capacity four times.

A horse power is estimated equal to 100 sq. ft. of direct steam radiation or 165 sq. ft. of hot water radiation on 10 sq. ft. of fire surface in a cast sectional heater or 12 to 15 sq. ft. of fire surface in a steel or tubular heater, or that power required to raise 33,000 lbs. one foot per minute.

Water weighs 62⅓ lbs. per cubic foot or 8⅓ lbs. per gallon, and there are 7½ gallons in a cubic foot.

Water pressure is 43 lbs. per hundred feet or 4⅓ lbs. for each 10 ft., or nearly ½ lb. for each foot in height.

Water freezes at 32° temperature.

Water boils at atmospheric pressure or sea level at 212° and in a vacuum at 98°, and its temperature is proportionately less.

Water expands 1/10 by freezing and by boiling 1/23.

Water evaporated expands about 1,700 times its bulk.

Water absorbs, also gives off, more heat than any other known substance.

A heat unit, British Thermal Unit (B. T. U.), raises temperature of 1 lb. of water 1° and is 1/180 of the distance between the freezing and boiling point of water.

A pound of anthracite coal contains 14,500 heat units.

996 heat units will evaporate 1 in. of water at 212°.

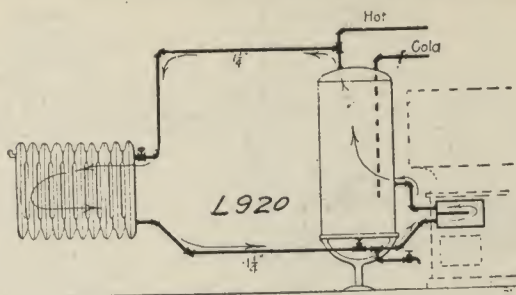
One square foot of grate in a low pressure steam heater will consume 3 to 5 pounds of anthracite coal per hour.

One square foot of grate in a high pressure steam boiler will consume about 12 pounds of anthracite coal per hour.

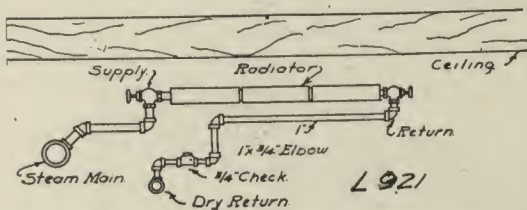
EVAPORATION—1 cubic inch of water evaporated under atmospheric pressure is converted into 1,642 cubic inches of steam.

COAL IN BIN—Anthracite coal requires 36 cubic feet of space per ton of 2,000 lbs.

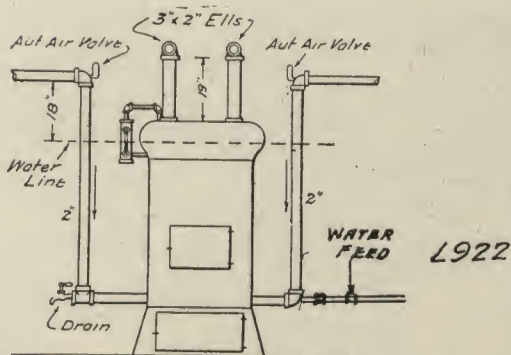
Bituminous coal requires 40 cubic feet of space per ton of 2,000 lbs.



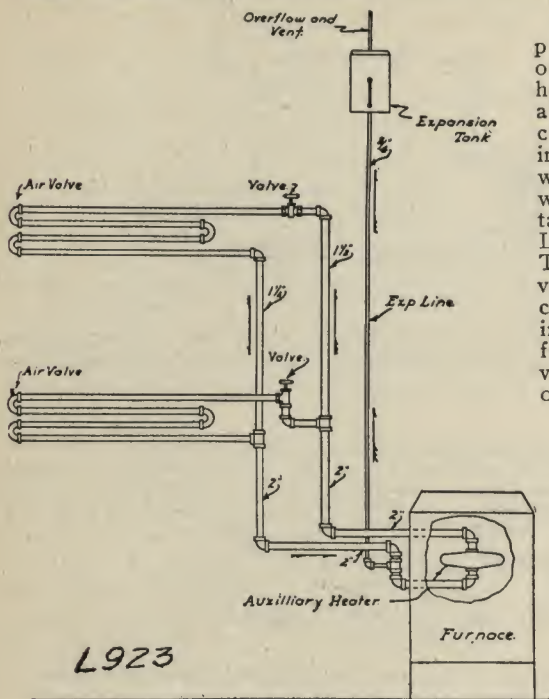
L-920. Shows proper method of connecting radiator or pipe coil for heating purposes with range boiler or hot water tank.



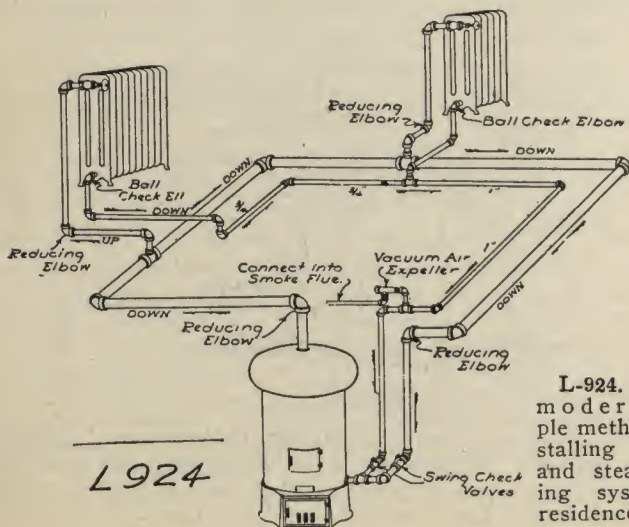
L-921. Showing proper method of installing wall radiator or pipe coils in basement above steam mains.



L-922. Showing proper way to set up steam or hot water boiler in basement. Remember, if hot water, the returns are the same size as the mains. If steam heating plant, be sure to install air vents on returns before they drop to the boiler.



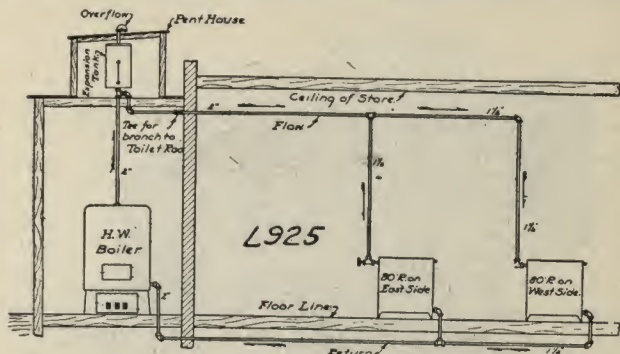
L923



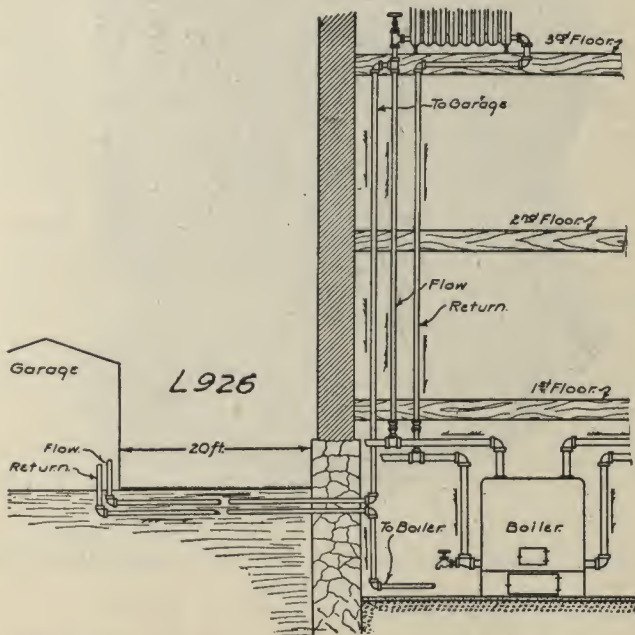
1924

L-923. Shows proper method of installing hot water radiators or pipe coils for heating in connection with our hot water heating attachments. See L-824, page 185. This apparatus is very practical and can be installed in almost any furnace, and it is very cheaply operated.

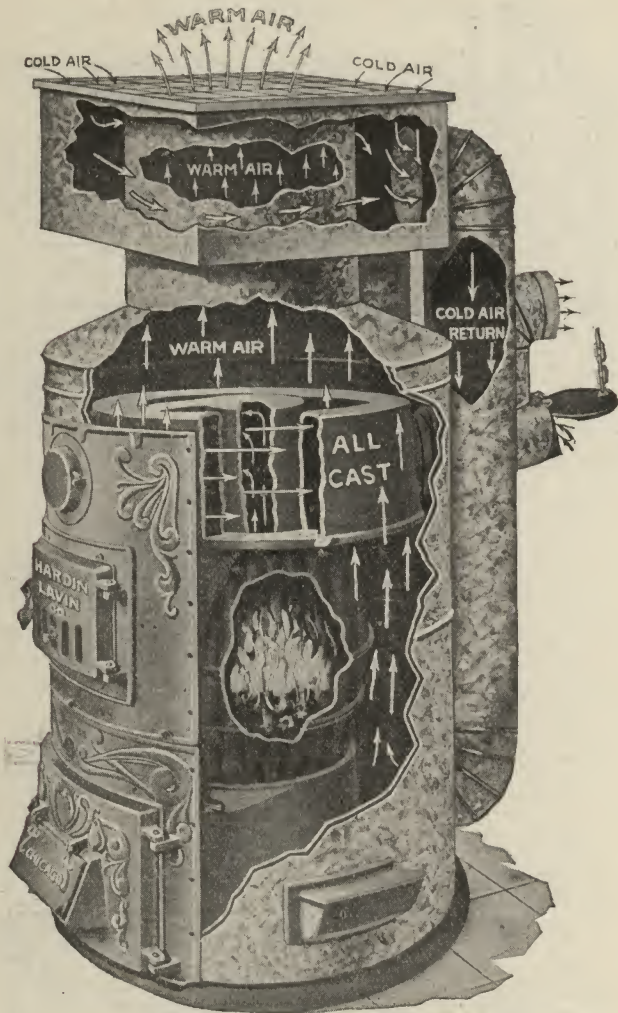
L-924. Shows modern, simple method of installing vacuum and steam heating system for residence heating.



L-925. Shows hot water heating boiler, properly connected to hot water radiators or pipe coils on same floor as boiler, with return brought back to boiler below floor. Note.—Carry main to ceiling of room as shown.



L-926. Shows proper method of connecting up hot water heating system to garage from hot water plant in residence.



L-927. IMPROVED ALL CAST PIPELESS HEATING SYSTEM

We keep well posted on the heating needs and thru our years' of practical tests and experiments with the different kinds of hard coal, soft coal and wood, we are able to build into this newer

central heating system advanced improvements and features of superiority not equalled by other manufacturers.

OUR ADVANCED IMPROVEMENTS

The entire body of this ALL CAST furnace is so constructed that the fire and smoke has the longest circular staggered travel possible; therefore our radiator is made exceedingly large and is cast in two parts, with large center smooth area flue travel and positive rear return outlet. Our humidifying apparatus is so constructed that all the air is humidified perfectly as it is being heated. (This feature alone will save 15% of your fuel) and because of our scientific firing and feeding principles, together with our famous draft distributing, oxygen burning grates, this newer heating system burns the cheapest grades of coal as effectively as others burn the more expensive kinds.

THIS SYSTEM SUPERIOR TO OTHERS

On other pipeless furnaces, the cold air is taken down inside of the casting, and as this chamber is always heated, being separated from the heating chamber only by a thin sheet iron partition, the air has a tendency to raise instead of descend, thus hindering circulation. It is just as impractical to try to make water run up hill as to expect air that is slightly heated to have a downward circulation in a gravity system. Our pipeless outfit is simpler than a stove to operate and much more healthful. It forces heat to all parts of the house and changes and purifies as well as heats the air in every room.

HOW OUR SYSTEM COMPELS CIRCULATION

Thru the outside of our double individual floor register we take our cold air into two large galvanized cold air pipes (shown on back of furnace), which are connected to bottom of furnace casing. The cold air next circulates entirely around our large corrugated fire pot, passing thru our humidifying device and up around the circulating cast iron radiator in heating chamber. Next it is forced up thru the center of floor register to all parts of the building. The cold air returning thru the system gives a continuous circulation of warm, healthful, humidified air to your home at all times. There is no theory or guess work about this system. We have hundreds of plants in operation bearing out our strongest claim.

A FEW OF OUR BIG FEATURES

Our furnaces have been perfected by years of practical knowledge. The interior is all made of the best grade of furnace cast

iron and will stand intense heat. The base plate or bottom is one piece of heavy cast iron, consisting of outer base ring with heavy cast iron strengthening spokes. The ash pit is deep, wide and tapered. The grates are our new designed, fool-proof, triple face pattern, with suction air intake construction, permitting and distributing the proper amount of air with the fuel, compelling fast, steady, hot flames. This feature, together with our fire travel, gives the most possible heat from the fuel consumed. All casings are double constructed, cut and fitted in our factory, and are easily assembled.

TAPERED CORRUGATION IN AND OUT

The fire pot is cast in two heavy sections. This, together with the upper feed dome section, is thoroughly and evenly corrugated, in and out, tapered up and down, increasing efficiency and adding long life to the furnace. It is all made from specially prepared cast iron to stand intense heat. Our joints are deep and concave, which prevents all gas and smoke entering the home. The radiator is cast in two sections and securely bolted together, and is air tight in construction. Our ALL CAST heavy front has accessible clean-out door for radiator. The ash pit and firing doors are large and fit perfectly, adding convenience to feeding and operating the system. Our humidifying device is so arranged that every cubic foot of air is properly humidified before being forced into the building.

ANY HANDY MAN CAN DO THE INSTALLING

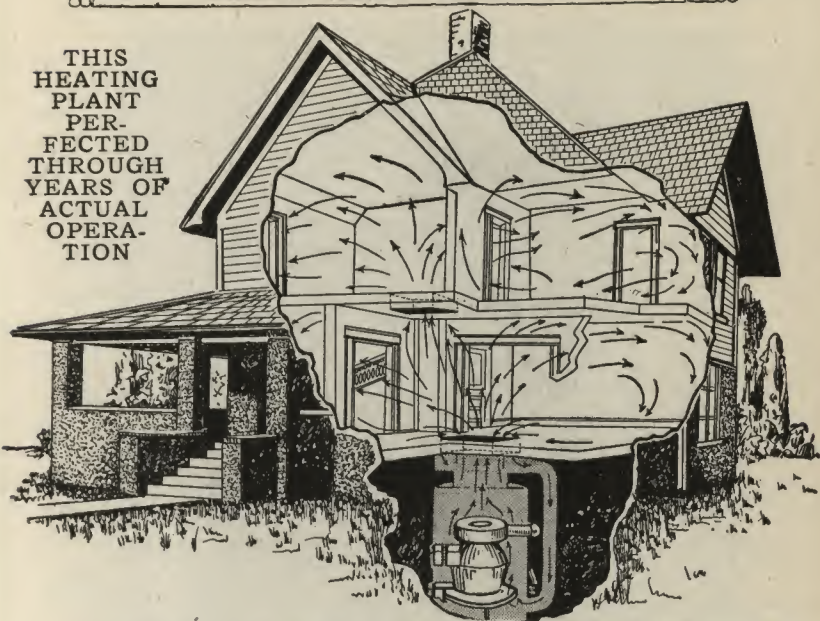
Our regulating draft and dial plate is to be placed on first floor that system can be regulated without entering the basement. Furnished complete, with poker, shaker handle, cement, chain and pulleys. Our aim thruout is to furnish you a system all cut and fitted in our factory that you will have no trouble whatever in doing the installing yourself by following our plain instructions.

For detailed description, see L-930, page 266.

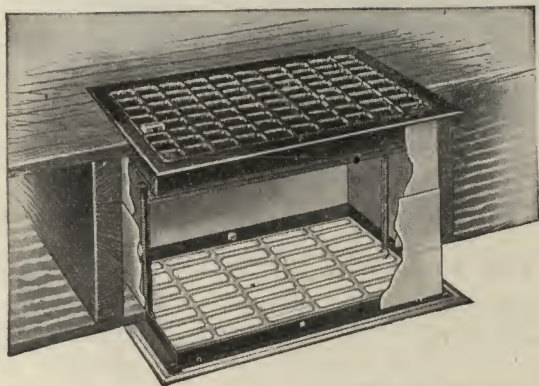
For construction see Pages 268-9.

Serial Number	Casing	Fire Pot	Smoke Pipe	Size Register	Will Heat Rooms	List Prices Complete
No. 320.	34 in.	20 in.	8 in.	22x24	4 or 5	\$140.00
No. 322.	38 in.	22 in.	8 in.	24x27	5 or 6	167.50
No. 324.	42 in.	24 in.	8 in.	30x30	6 or 7	193.25
No. 326.	46 in.	26 in.	9 in.	30x36	7 or 8	224.00
No. 328.	50 in.	28 in.	10 in.	36x36	8 or 9	266.00

THIS
HEATING
PLANT
PER-
FECTED
THROUGH
YEARS OF
ACTUAL
OPERATION



Elevation shows how our central heating system heats and ventilates entire home.



L-928—ENAMEL CEILING VENTILATOR

This improved ventilator is to be used in connection with our pipeless heating plant, so that the warm air may properly circulate to the second floor. It is a very beautifully designed ventilator. The floor register is jet black enameled and the ceiling register is a perfect white enamel. Outfit and connecting box are adjustable and can be easily installed in any ceiling. Notice our patented holding attachments, which hold these registers rigid to the floor and ceiling. This ventilator can be opened and closed at will.

L-929 — Our cast iron quick heating furnace or boiler coil will heat up to 60 gal.-tank. Notice our patented circulating partition. List price, complete \$6.00

Size, in.	8x10	10x12	12x14
List Price	\$4.50	\$6.00	\$9.00



L-930. IMPROVED ALL CAST PIPE HEATING SYSTEM

Our new regular ALL CAST pipe furnace is adapted for heating with individual register placed in each room. This system we recommend where the layout of the building is so separated that it will not permit the installing of our Central Pipeless System.

Our experience, together with your suggestions, will enable us to give you an absolutely correct size, modern heating system, guaranteed to heat your building properly in cold weather, eliminating all waste of fuel, with care reduced to the minimum, for we have built into this newer plant, fuel and labor saving and heat producing improvements, which are not put out by other manufacturers.

INSTALLATION IS SIMPLY ASSEMBLING

In the construction of our heating plants, our aim is to turn out a system, from a length of pipe to the complete outfit, that the handy man can do the installing himself. Every connection and part is made of double construction and adjustable where practical.

Accurate tests have proven that our improved air distributing constructed grates and long fire travel together with our improved humidifier have cut coal bills in half in many cases, for it is so built that it burns up gas, soot and smoke that ordinarily goes up the chimney, and will burn any kind of low grade soft coal, hard coal or wood, forcing the maximum amount of heat to the rooms.

DESCRIPTION IN DETAIL

Base Plate. Is one piece heavy, solid cast iron, consisting of ash pit bottom, outer base ring and strengthening spokes.

Ash Pit. Is deep and roomy and sufficiently large to allow a large amount of ashes to accumulate without burning the grates, and has large, accessible door.

Grates. Are our "Never-Clog" self cleaning, reinforced, and are of our new air distributing construction, complete with Master Bars.

Fire Pot. Is extra heavy and cast in two heavy sections, with tapered corrugation in and out and deep middle expansion cup joints.

Feed Door Section. Is extra heavy, with tapered corrugation in and out, and offset construction for hot water coil connection.

Radiator Dome. Is ALL CAST reversible flue design of over size, adding 30% heating capacity.

Our Improved Humidifier. This improved device is installed toward the bottom of the furnace, and is so arranged that all air to be heated is properly humidified before being forced up into the rooms.

Casings. Are made of heavy No. 26 gauge galvanized furnace iron. Heat retaining casing made of special black GA iron. All cut and fitted in our factory.

Doors. Are large and ground to fit, adding convenience to feeding and cleaning the furnace. Our ALL CAST front is heavy and in sections, each over-lapping, making it easy to install and absolutely tight.

Accessories. Each system is furnished complete, with check draft, non-burning iron furnace cement, poker, shaker, draft regulating dial plate, chain, pulleys, bolts, etc. Complete in every detail, ready for installing.

Read description of our L-927 pipeless furnace. the fire travel and inside construction are precisely the same.

Serial Number	Diameter Casing	Fire Pot	Smoke Pipe	Height of Furnace	Will Heat Rooms	List Prices Complete
No. 420.	34 in.	20 in.	8 in.	53 in.	4 or 5	\$ 73.50
No. 422.	38 in.	22 in.	8 in.	55 in.	5 or 6	87.00
No. 424.	42 in.	24 in.	8 in.	57 in.	6 or 7	101.00
No. 426.	46 in.	26 in.	9 in.	61 in.	7 or 8	119.50
No. 428.	50 in.	28 in.	10 in.	64 in.	8 or 9	147.00
No. 430.	54 in.	30 in.	10 in.	67 in.	9 or 10	175.50

OVERSIZED SEAMLESS TOP RADIATOR



DIVIDED INDIRECT FLUE TRAVEL

Radiator is all cast iron construction without seam or joint on top, oversized, and of the divided, re-circulating top. Radiator has deferred flue travel, increasing heat radiation. Every particle of coal burned is forced to radiate all units of heat before passing out to chimney. The rounded interior construction prevents accumulation of soot, thereby insuring full heating capacity.

HEAVY TWO PIECE FIRE POT



DEEP GAS TIGHT JOINTS

The fire pot is cast in two heavy sections with deep corrugations. The cup joint absorbs the constant stress and strain due to expansion and contraction when furnace is in use. Heat radiating surface of fire pot is doubled, due to heavy corrugations. The best grade of ore is used in the manufacture of our furnaces, insuring long life.

Our experience guarantees you satisfaction. See page 5.

HEAVY REINFORCED GRATE



LARGE DEEP ASH PIT

Ash pit is equipped with triple face anti-clinker type grate which breaks and shakes clinkers. Grate air space is of proper proportion and gives just the right amount of air to fire, permitting perfect combustion. Grates are geared in sets which allows shaking half of the grates in mild weather. Any grate can be removed in a minute's time if necessary.

ALL CAST IRON CONSTRUCTION

Only the best grade of iron of the proper mixture is used in our furnaces, insuring long life and service without replacement bills. The practical design of our heavy, All Cast Iron Pipeless and Pipe Furnaces insures permanent service. Parts exposed to more than ordinary usage are extra heavy, insuring lasting durability.

QUALITY PRICE SERVICE

A valuable guide to follow in deciding what furnace to buy is to consider the reputation of the manufacturer which is your best protection against purchasing an inferior furnace. For over forty years, we have been building furnaces, which in itself speaks volumes for the reliability and success of the same.

GUARANTEE

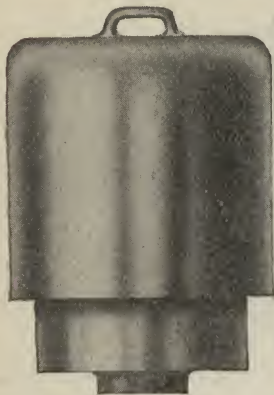
We guarantee our furnaces to be free from flaws or defects. We further guarantee them to be of the capacity rated and if your furnace does not do what we claim for it, you can return it and we will refund you your money.

INSTALLING INSTRUCTIONS

Complete typewritten installing instructions and blueprint plans with diagrams are furnished, which show and explain in detail how to install our Pipeless and Pipe Furnaces. Casings and top bonett are all factory fitted, eliminating extra unnecessary work for installing.

Look up our reputation. See pages 8-130-161.

L-931 AUTOMATIC SEPTIC TANK SYPHON.



SIMPLE, RELIABLE AND EFFICIENT.

The syphon consists of plain castings. The discharge trap, the cap, and bell have no machine work. The trap is made to rest on the bottom of the tank with the outlet opening into the waste connection. The cap is supported within the trap by four webs cast on it, and the bell rests on the cap and is kept in position by the webs cast inside of it.

A Complete Installation.

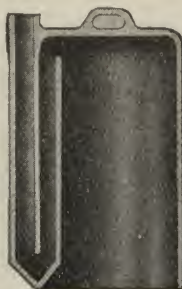
The fittings required are one automatic septic tank syphon, three sanitary tees, L-633, two L-623 Quarter bends and two lengths L-622 four inch extra heavy double hub soil pipe.

Advantage of Improved Septic Tank Syphon.

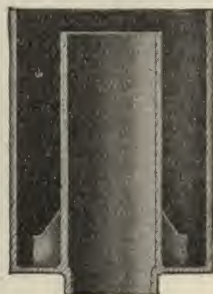
The advantage of a septic tank equipped with this improved syphon is that all waste matter goes through a natural process of decomposition. In the ordinary cesspool, the liquid does not remain in the tank, causing the solid sewage to decompose, and give off bad odors. With an automatic syphon, the



BELL



CAP



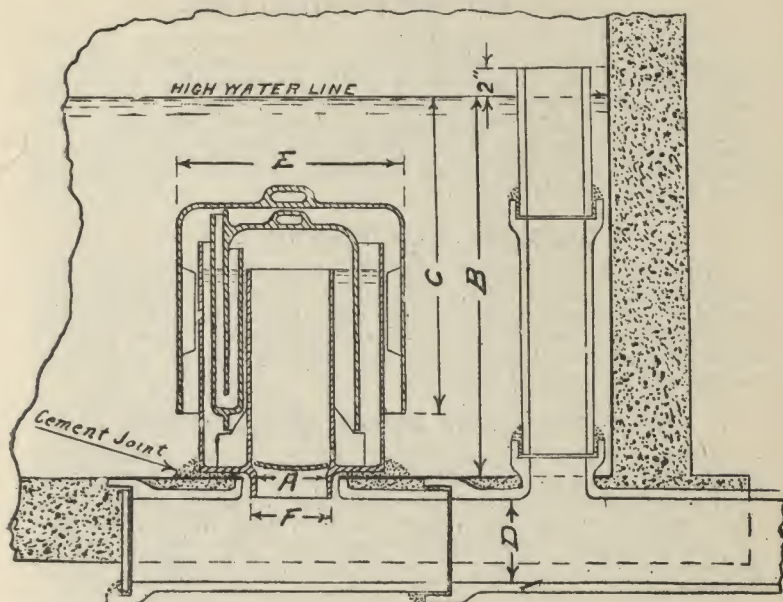
TRAP

sewage in the tank is properly decomposed from time to time without attention, and represents the best and present only known practical way of sewage disposal for country and suburban homes.

Easily Installed.

The syphon can easily be installed during the construction of the septic tank or after the tank has been finished. All that is required to install the syphon is a light, fresh bed of cement mortar around the outlet of the tank and syphon. When installing the syphon, be sure to level the trap both ways. Trap should not be disturbed until cement has set hard enough to hold it in position. When the cement hardens, the trap can be filled with water and the cap can be put in position, and the bell put in place over the cap. Any handy man can easily install a syphon by following the above simplified instructions and special blue-print furnished by us.

L930—Automatic Septic Tank Syphon, complete, list price.....\$40.00



DIMENSIONS OF SYPHON L-931

Size of Siphon

No. 423.

A—Diameter of Outlet.....	4 in.
B—Discharging Depth	23 in.
C—Drawing Depth	18 in.
D—Size of Sewer Pipe.....	4 to 6 in.
E—Diameter of Siphon.....	17 in.
F—Diameter of Tank Outlet.....	5 in.

Dimensions, etc. of larger sizes or special sizes upon request.
See illustration above for dimension lines.

DIMENSIONS AND CAPACITIES OF SEPTIC TANKS

Persons Served.	Septic or Scum Chamber			Syphon Chamber		
	Width Inside.	Length Inside.	Depth Inside.	Width Inside.	Length Inside.	Min. Depth Inside.
6	4 ft.	6 ft.	3½ ft.	4 ft.	3 ft.	2 ft. 4 in.
8	4 ft.	6½ ft.	4 ft.	4 ft.	4 ft.	2 ft. 4 in.
12	4 ft.	7 ft.	5 ft.	4 ft.	5 ft.	2 ft. 5 in.
15	4 ft.	8 ft.	5 ft.	4 ft.	6 ft.	2 ft. 5 in.

The above schedule gives the various sizes and capacities of septic tanks for different installations according to number of individuals to be accommodated. See Page 8-130-161.

L-192 ROYAL BATH ROOM OUTFIT

The Royal Bath Room Outfit—our most recent and beautiful creation is a product of skilled artisans, and represents a combination of fixtures that is supreme in design, workmanship, and finish. Notice how well the perfectly formed, well defined lines blend together. The finish is of glistening white and everlasting. This combination of fixtures is for installation in the best grade of homes where something of an exclusive, individual type of bath room equipment is desired.

SUPREME TILE-IN BATH TUB

The tub is our newest creation, glistening white porcelain enamel, all cast in one piece with apron to floor. Equipped with concealed compression combination bell supply and waste fittings with four arm china handles and escutcheons on valves at wall. Water enters tub through low bell delivery, heavy cast brass, heavily nickel-plated. Length $4\frac{1}{2}$ or 5 ft.

VITREOUS CHINA PEDESTAL LAVATORY

Lavatory is our newest Colonial pattern, white vitreous china with a smooth and beautiful, highly lustrous surface, glazed all over. Equipped with four arm china handle heavy model basin rocks indexed hot and cold; Royal Ideal Lifting Waste with china foot indexed; heavy nickel-plated brass, iron pipe size, adjustable supplies and $1\frac{1}{4}$ in. heavy brass nickel-plated adjustable trap to floor or wall.

TWIN SYPHON JET NOISELESS CLOSET

A highly improved closet is represented in our superb Twin Syphon Jet Noiseless Combination. It is made of the very best grade of white vitreous china, smooth and with a highly finished lustrous surface. Tank is large Colonial Serpentine design fitted with the best grade of heavy, durable trimmings. Closet bowl is our new model Twin Syphon Jet Noiseless Bowl with extended sanitary lip. Seat is highest grade reinforced open front, pearl white, sanitary type, equipped with heavy nickel-plated bar hinges complete.

L-192 Royal Bath Room Outfit complete as shown and described. List price.....\$325.00

NON SCALDING SHOWER BATH

Shower Bath illustrated, is our highest grade special built-in tub shower consisting of heavy cast brass swivel shower head complete with concealed mixing valve with china wall plate indexed hot, warm, cold. Shower curtain is heavy white duck, supported on heavy nickel-plated bar, complete with flanges, rings, hooks, and curtain holder.

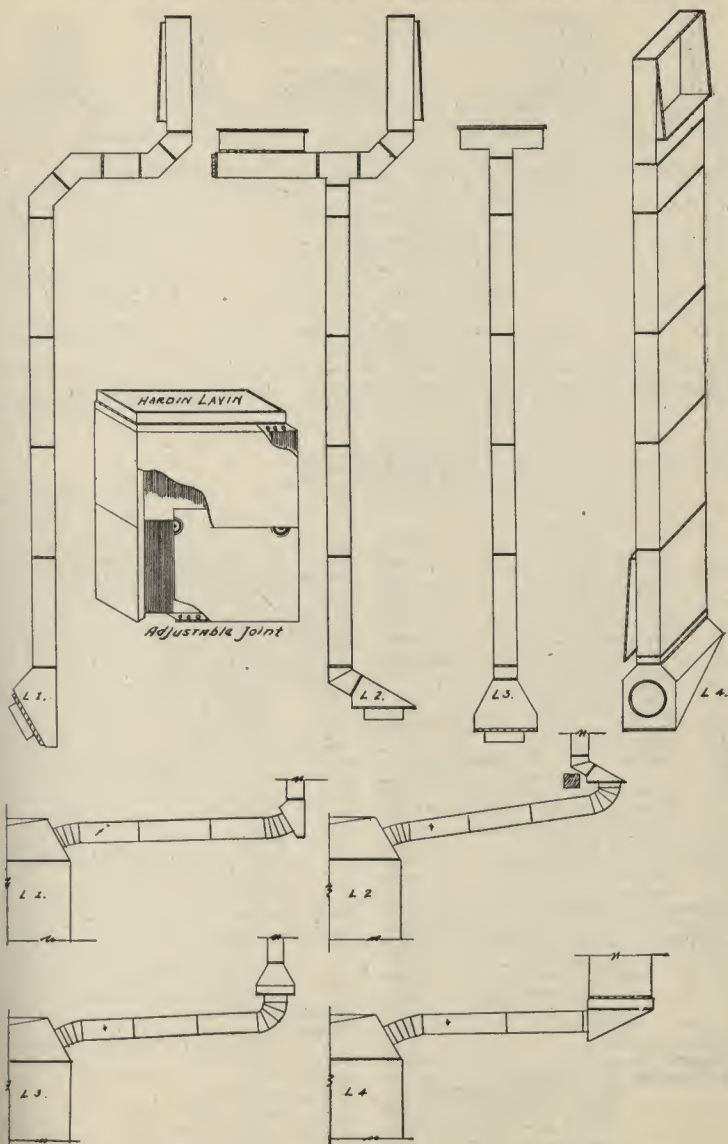
L-192 Royal Shower Bath Outfit complete as shown and described. List price.....\$50.00

Hardin-Lavin Co., Chicago, Illinois.

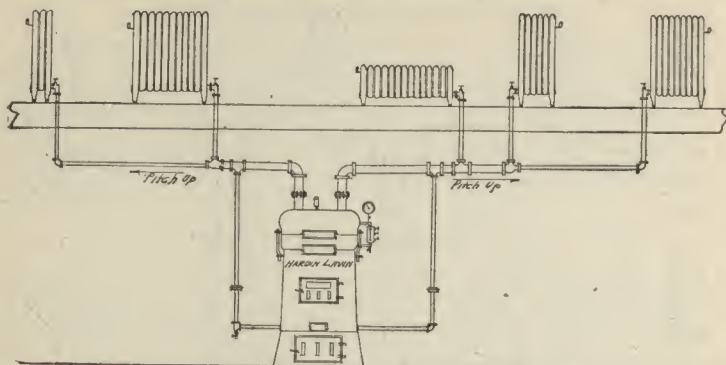
Dear Sirs:

My furnace I bought of you a year and a half ago is giving entire satisfaction. I have an order which I will send in a short time.

Yours very truly, Wm. Reynolds, Wichita, Kansas.



We show several different warm air wall stacks to 2nd floor with different boot connections in basement. Also notice the assorted connections between furnace and bottom of stack or boot.



Elevation showing easy method to install steam plant for bungalow without returns.

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APPROXIMATE SHIPPING WEIGHTS.

Regular Both Tub (5 ft.).....	315 lbs.
Base Bath Tub (5 ft.).....	385 lbs.
Panel Bath Tub (5 ft.).....	435 lbs.
One Piece Sink	175 lbs.
Thirty Gallon Range Boiler.....	175 lbs.
Complete Roughing-in Material (Two Stacks).....	1,100 lbs.
Closet Bends	20 lbs.
Vitreous Closet Outfit.....	140 lbs.
Oak Closet Outfit.....	110 lbs.
Lavatory (average size).....	110 lbs.
Two Part Laundry Tub.....	300 lbs.
Pneumatic Water Supply System.....	600 lbs.
Extra Heavy Soil Pipe, Per Length.....	62 lbs.
Tees, Quarter and Eighth Bends.....	17 lbs.
Six Room Warm Air Heating Plant.....	1,450 lbs.

Steam Heating Plant, complete, exclusive of covering, 14 lbs. per ft. radiation.

Hot Water Heating Plant, complete, exclusive of covering, 17 lbs. per ft. radiation.

NOTICE ALL PRICES GIVEN IN THIS BOOK ARE RETAIL. FOR OUR LOWEST WHOLESALE PRICES SEE SPECIAL NET DISCOUNT SHEET BOOKLET INSIDE OF FRONT COVER. AT YOUR REQUEST, WE WILL MAIL YOU NEW DISCOUNT SHEETS APPLYING TO THIS BOOK FROM TIME TO TIME AS PRICES CHANGE.

CUT TO FIT HEATING PLANTS

IN furnishing heating plants to the public, our aim is to turn out a complete, guaranteed CUT TO FIT outfit (that is, all large pipes cut and threaded) that any handy man can do the installing himself with the aid of our free easy installing plans and instructions.

First, from a rough sketch, we determine the right amount of radiation and sizes of radiators required. The proper size and kind of boiler or hot air furnace. We next lay out the piping as to sizes and circulation the right way. Then with your cooperation, we place the boiler or furnace in the most suitable location in your basement.

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THIS CATALOG is our GENERAL and PERMANENT EDITION.

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At your request, new discount sheets applying to this book will be mailed you from time to time as prices change.

We issue supplements as new plumbing and heating improvements and changes are made.

HARDIN-LAVIN CO., CHICAGO

NOTICE All Prices in This Book are Retail. For Wholesale Prices See Special Net Discount Sheet in Front.

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**1922
REVISED**

Wholesale Discount Sheet

**for all editions of
THE HANDY MAN BOOK
PRICE REDUCTIONS**

Pursuant to the Hardin-Lavin policy, we have made drastic reductions throughout our entire line. Prices in this booklet are down to bed-rock. In no instance in the reduction of our prices have we sacrificed quality for price, therefore you are assured of the same high standard of Hardin-Lavin products.

IMPORTANT NOTICE

This discount sheet supersedes all previous issues, and applies to our 1922 Edition of the Handy Man Book, as well all other issues except that the page numbers in the discount sheet do not correspond with the page numbers in Handy Man Books issued prior to 1922. When looking up the price of any article or fixture in any Handy Man Book printed before 1922, use the figure or plate reference number only. Where an article is shown in any Handy Man Book and not listed in this new price sheet, the same has been discontinued or the price may be had on application.

**Our Guarantee
Label**



**Your
Protection**

The Hardin-Lavin highest grade first quality guarantee label (your protection) appears on each fixture. It is your assurance and guarantee that the fixture on which it appears is of a recognized superior quality—and represents the best of its kind. Insist on our highest grade first quality label. It is your guaranteed protection and definitely ends the guesswork in buying plumbing.

TERMS CASH

Therefore, we are able to make low prices. You are perfectly safe in sending remittance with your order; your personal check, post office or express money order. If you send more than is required, the difference will be promptly refunded with your invoice when your order is acknowledged. Full cash remittance eliminates delays and inconvenience—incidental to C. O. D. shipments.

REFERENCES:

We refer you to your bank, or any bank or express company, Dun or Bradstreet's as to our responsibility and forty-five years' reputation in this same business at our own original location.

HARDIN-LAVIN CO.

4533-4543 Cottage Grove Ave.

September, 1922

CHICAGO

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE	Net Price
17....	L-192.....	ROYAL BATH ROOM OUTFIT— Wall connections....	\$215.00
		Floor connections...	216.00
17....	L-192.....	ROYAL SHOWER BATH OUTFIT COMPLETE	45.00
18....	L-196.....	BUNGALOW BATH ROOM OUTFIT— Wall connections....	66.25
		Floor connections...	66.75
19....	L-197.....	RESIDENCE BATH ROOM OUTFIT— Wall connections....	72.80
		Floor connections...	73.55
20....	L-198.....	MANSION BATH ROOM OUTFIT— Wall connections....	101.80
		Floor connections...	102.55
20A ..	L-193.....	APARTMENT BATH ROOM OUTFIT— Wall connections....	106.00
		Floor connections...	106.75
20B ..	L-194.....	CASTLE BATH ROOM OUTFIT— Wall connections....	140.50
		Floor connections...	141.25
21....	L-199.....	PALACE BATH ROOM OUTFIT— Wall connections....	153.40
		Floor connections...	154.15
		NOTE:—L-199 can be furnished with L-242 Syphon Jet Closet at \$2.75 additional.	
22....	L-100.....	SHEET STEEL BATH TUB..... 4½ ft..	15.25
		5 ft..	16.25
23....	L-200.....	ST. LOUIS BATH TUB..... 4 ft..	31.95
		4½ ft..	32.15
		5 ft..	32.35
		5½ ft..	35.95
23....	L-200.....	ST. LOUIS BATH TUB..... 4½ ft..	33.35
		Narrow, 26 in. wide. 5 ft..	33.50
		5½ ft..	36.95
24....	L-201.....	NEW YORK BATH TUB..... 4½ ft..	45.95
		With Ideal Waste. 5 ft..	46.25
		5½ ft..	49.95
24....	L-201.....	NEW YORK BATH TUB..... 4½ ft..	42.25
		With regular waste and overflow. 5 ft..	42.50
		5½ ft..	46.50
25....	L-202.....	LONDON BATH TUB..... 4½ ft..	62.50
		5 ft..	64.50
		5½ ft..	68.75
26....	L-206.....	TILED-IN EDEEN BATH TUB..... 4½ ft..	57.25
		5 ft..	59.75
		5½ ft..	63.30
27....	L-207.....	ETRUSCAN BATH TUB..... 5 ft..	90.00
28....	L-208.....	TILED-IN MONA BATH TUB..... 4½ ft..	65.00
		5 ft..	68.00
		5½ ft..	72.50
29....	L-209.....	NEW TILED-IN VENICE BATH TUB— (To tile in one side and one end) 5 ft..	82.00
		5½ ft..	86.50
29....	L-209.....	NEW TILED-IN VENICE BATH TUB— (To tile in on one side) 5 ft..	86.25
		5½ ft..	92.75
30....	L-210.....	BABY OR SITZ BATH COMPLETE.....	86.50
31....	L-212.....	LAVATORY Size 15x16¼ in. Wall connections	10.50
31....	L-212.....	LAVATORY Size 15x16¼ in. Floor connections	11.25
31....	L-213.....	LAVATORY Size 16x19½ in. Wall connections	11.25
31....	L-213.....	LAVATORY Size 16x19½ in. Floor connections	11.75
32....	L-214.....	LAVATORY Size 18x21½ in. Wall connections	13.95
32....	L-214.....	LAVATORY Size 18x21½ in. Floor connections	14.70
32....	L-215.....	LAVATORY Size 18x24 in. Wall connections	17.00
32....	L-215.....	LAVATORY Size 18x24 in. Floor connections	17.75
33....	L-216.....	LAVATORY Size 18x24 in. Wall connections	21.50

Page in Book	Number in Book	FIXTURE OR ARTICLE COMPLETE					Net Price
33...	L-216	LAVATORY	Size 18x24 in.	Floor connections..		\$22.25	
33...	L-217	LAVATORY	Size 18x24 in.	Wall connections..		18.00	
33...	L-217	LAVATORY	Size 18x24 in.	Floor connections..		18.95	
34...	L-218	LAVATORY	Size 18x24 in.	Wall connections..		22.50	
34...	L-218	LAVATORY	Size 18x24 in.	Floor connections..		23.25	
34...	L-219	LAVATORY	Size 19x19 in.	Wall connections..		16.00	
34...	L-219	LAVATORY	Size 19x19 in.	Floor connections..		16.75	
35...	L-220	LAVATORY	Size 19x19 in.	Wall connections..		16.75	
35...	L-220	LAVATORY	Size 19x19 in.	Floor connections..		17.50	
35...	L-221	LAVATORY	Size 19x19 in.	Wall connections..		20.90	
35...	L-221	LAVATORY	Size 19x19 in.	Floor connections..		21.65	
36...	L-222	LAVATORY	Size 18x24 in.	Wall connections..		21.00	
36...	L-222	LAVATORY	Size 18x24 in.	Floor connections..		21.75	
36...	L-223	LAVATORY	Size 20x24 in.	Wall connections..		28.75	
36...	L-223	LAVATORY	Size 20x24 in.	Floor connections..		29.50	
37...	L-224	LAVATORY	Size 20x24 in.	Wall connections..		32.00	
37...	L-224	LAVATORY	Size 20x24 in.	Floor connections..		32.75	
38...	L-225	LAVATORY	Size 20x26 in.	Wall connections..		43.50	
38...	L-225	LAVATORY	Size 20x26 in.	Floor connections..		44.25	
39...	L-226	LAVATORY	Size 20x26 in.	Wall connections..		46.75	
39...	L-226	LAVATORY	Size 20x26 in.	Floor connections..		47.50	
40...	L-227	LAVATORY	Size 20x30 in.	Wall connections..		49.50	
40...	L-227	LAVATORY	Size 20x30 in.	Floor connections..		50.25	
40...	L-227	LAVATORY	Size 24x33 in.	Wall connections..		56.00	
40...	L-227	LAVATORY	Size 24x33 in.	Floor connections..		56.75	
41...	L-228	LAVATORIES, write for late prices.					
41...	L-229	LAVATORIES, write for late prices.					
42...	L-231	BASIN BOWL	C. O. M. P..	Round 14x14 in..		2.30	
42...	L-232	BASIN BOWL	P. O. M. P..	Round 14x14 in..		2.70	
42...	L-233	BASIN BOWL	P. O. R. P..	Round 14x14 in..		3.15	
42...	L-234	BASIN BOWL	C. O. M. P..	Oval 14x17 in....		4.75	
42...	L-234	BASIN BOWL	C. O. M. P..	Oval 15x19 in....		6.90	
42...	L-235	BASIN BOWL	P. O. M. P..	Oval 14x17 in....		6.00	
42...	L-235	BASIN BOWL	P. O. M. P..	Oval 15x19 in....		7.75	
42...	L-236	BASIN BOWL	P. O. R. P..	Oval 14x17 in....		7.00	
42...	L-236	BASIN BOWL	P. O. R. P..	Oval 15x19 in....		8.50	
42...	L-237	URINAL	13x15 in.	\$14.50 15x18 in..		17.75	
42...	L-238	URINAL	11½x11½ in.	14.50 13x13 in..		17.75	
43...	L-239	OAK SYPHON WASHDOWN CLOSET OUTFIT					22.95
44...	L-240	SYPHON WASHDOWN CLOSET OUTFIT					27.50
45...	L-241	SYPHON WASHDOWN CLOSET OUTFIT					29.85
46...	L-242	VITREOUS SYPHON JET CLOSET OUTFIT					37.25
47...	L-243	NEW TANKLESS JET CLOSET OUTFIT					34.75
47...	L-244	HIGH CLOSET OUTFIT—OAK					24.50
48...	L-246	ENAM. IRON WASHDOWN CLOSET OUTFIT					40.75
49...	L-249	NON-FREEZING BRASS HOPPER VALVE					5.75
49...	L-250	ENAMELED IRON HOPPER					4.25
50...	L-251	AUTOMATIC ENAMELED HOPPER CLOSET					10.50
50...	L-252½	NEW ENAM. FROST PROOF CLOSET OUTFIT					28.00
51...	L-254	PLAIN WASH-OUT BOWL.....					Discontinued
51...	L-255	PLAIN WASH-OUT BOWL, Vented.....					Discontinued
51...	L-256	WASHDOWN CLOSET BOWL.....					\$ 9.95
51...	L-257	SYPHON JET CLOSET BOWL.....					17.25
NOTE:—Bowls with 2 in. spud shipped unless otherwise ordered.							
52...	L-258	OAK STRIP SEAT.....					3.25
52...	L-259	OAK PEDESTAL SEAT.....					3.75
52...	L-260	REGULAR OAK SEAT.....					3.00
52...	L-260	REGULAR MAHOGANY SEAT.....					3.10
52...	L-261	HIGH GRADE OAK SEAT.....					3.75
52...	L-261	HIGH GRADE MAHOGANY SEAT.....					3.90
52...	L-262	HIGH GRADE FRONT OAK SEAT.....					4.75
52...	L-262	HIGH GRADE OPEN FRONT MAHOG'Y SEAT.....					4.90
52...	L-263	HIGH GRADE WHITE SEAT.....					7.00
53...	L-264	COLONIAL VITREOUS CHINA TANK.....					15.75
53...	L-264	SINGLE WAVE VITREOUS CHINA TANK.....					16.75
53...	L-264	DOUBLE WAVE VITREOUS CHINA TANK.....					18.25
53...	L-265	OAK COPPER LINED TANK.....					10.85
53...	L-266	HIGH OAK COPPER LINED TANK.....					8.50
53...	L-267	AUTOMATIC URINAL TANK.....					16.50
54...	L-268	VALVE AND GOOSE NECK COMPLETE.....					2.75
54...	L-268	GALV. GOOSE NECK... 1¼ in. \$1.25 1½ in..					1.60
54...	L-269	DOUGLAS VALVE COMPLETE.....					2.15
54...	L-270	ELEVATED BALL COCK.....					2.25
54...	L-271	HIGH TANK LEVER AND REST.....					.45

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE	Net Price
54	L-272	N. P. BRASS OFFSET CLOSET SEAT HINGES per pair	\$1.15
54	L-273	BOTTOM SUPPLY BALL COCK	1.75
54	L-274	TOP SUPPLY BALL COCK	1.75
54	L-275	BALL COCK FLOAT	.40
54	L-273	BALL COCK STEM	.15
55	L-278	BATH TUB STOOL	5.00
55	L-279	6 IN. N. P. CAST BRASS SHOWER HEAD	3.00
55	L-280	9 IN. N. P. BRASS SHOWER HEAD	8.75
56	L-281	AUTOMATIC SHOWER AND SHAMPOO	11.00
56	L-282	½ IN. N. P. NON-SCALDING SHOWER CON- TROL	19.00
57	L-285	CEILING SHOWER	8.75
57	L-286	RING CEILING SHOWER	27.00
58	L-288	HIGH GRADE PORTABLE SHOWER BATH	16.75
59	L-289	HIGH GRADE SHOWER OUTFIT	24.50
60	L-290	HIGH GRADE SHOWER OUTFIT	60.00
61	L-293	N. P. CAST BRASS BATH HOOK	.60
61	L-295	N. P. BRASS TOWEL BAR	18 in.. 2.75 24 in.. 3.00 30 in.. 3.25
61	L-296	CUT GLASS TOWEL BAR	18 in.. 9.30 24 in.. 9.60 30 in.. 10.00
62	L-297	DOUBLE GLASS TOWEL BAR	18 in.. 11.00 24 in.. 11.60 30 in.. 12.50
62	L-298	TOWEL SHELF	26 in.. 8.00
62	L-299	GLASS SHELF	18 in.. 4.05 24 in.. 4.40 30 in.. 5.00
63	L-300	GLASS SHELF AND TOWEL BAR	24 in.. 5.76 30 in.. 7.20
63	L-301	SHELF, TOWEL BAR AND TUMBLER HOLDER	24 in.. 13.00 30 in.. 14.25
64	L-302	BATH SOAP HOLDER	2.10
64	L-303	N. S. SOAP DISH	.60
64	L-304	WHITE CHINA SOAP DISH	1.00
64	L-305	WHITE CHINA SOAP DISH	1.30
65	L-306	BRUSH HOLDER AND TOWEL HOOK	1.15
65	L-307	COMBINATION HOLDER	2.75
66	L-308	TUMBLER HOLDER AND SOAP DISH	2.15
66	L-309	TUMBLER HOLDER AND SOAP DISH	3.50
67	L-310	DOUBLE TUMBLER HOLDER	1.75
67	L-311	SAFETY MATCH HOLDER	1.30
68	L-313	OAK BATH TUB SEAT	1.10
68	L-313	ENAMELED BATH TUB SEAT	1.60
68	L-314	NEW DESIGN SANITARY BOTTLE RACK	Disc't'd
69	L-315	PAPER HOLDER	2.60
69	L-316	ADJUSTABLE BATHROOM MIRROR	6.75
70	L-318	ADJUSTABLE QUADRUPLE MIRROR	54.75
71	L-319	BEVELED OVAL MIRROR	14x20 in.. 9.75 16x20 in.. 10.75 18x24 in.. 14.25
72	L-320	BEVELED MIRROR	12x18 in.. 8.00 16x20 in.. 10.75 18x24 in.. 14.25
73	L-321	BEVELED ROUND MIRROR	12 in.. 5.50 18 in.. 8.00
74	L-323	MEDICINE CABINET (SUPERFINE)	26.50

Page Book	Number in Book	PICTURE OR ARTICLE COMPLETE	Net Price
74	L-323	MEDICINE CABINET (REGULAR).....	\$ 16.00
75	L-324	ENAMELED FLAT RIM SINKS.....	
		14x20 in..	5.60
		18x24 in..	6.15
		18x30 in..	6.55
		20x30 in..	7.00
		20x36 in..	9.50
75	L-325	ENAMELED SINK BACKS.....	
		12 in..	4.25
		12x30 in..	4.75
		12x36 in..	6.15
76	L-326	ONE PIECE ROLL RIM SINK AND BACK COMPLETE	
		Size 18x24 in. WITH WALL TRAP.....	14.00
		Size 18x24 in. WITH FLOOR TRAP.....	14.50
		Size 18x30 in. WITH WALL TRAP.....	16.25
		Size 18x30 in. WITH FLOOR TRAP.....	17.00
		Size 20x30 in. WITH WALL TRAP.....	17.25
		Size 20x30 in. WITH FLOOR TRAP.....	18.00
		Size 20x36 in. WITH WALL TRAP.....	19.00
		Size 20x36 in. WITH FLOOR TRAP.....	19.75
77	L-327	ONE PIECE ROLL RIM SINK AND DRAIN- BOARD	
		Size 18x24 in. Length 40½ in. WALL TRAP.	19.00
		Size 18x24 in. Length 40½ in. FLOOR TRAP.	19.75
		Size 18x30 in. Length 52½ in. WALL TRAP.	21.75
		Size 18x30 in. Length 52½ in. FLOOR TRAP.	22.50
		Size 20x30 in. Length 52½ in. WALL TRAP.	23.25
		Size 20x30 in. Length 52½ in. FLOOR TRAP.	24.00
		NOTE:—When ordering any of the following sinks be sure to state if you want a right or left hand drainboard. If a corner sink, state whether right or left hand corner.	
78	L-328	ROLL RIM CORNER SINK AND DRAIN- BOARD	
		Sink 20x30 in. Length 52 in. WALL TRAP.	28.75
		Sink 20x30 in. Length 52 in. FLOOR TRAP.	29.50
79	L-329	ONE PIECE SINK BACK AND DRAIN- BOARD	
		Size 20x26½x44½ in. WITH WALL TRAP....	25.45
		Size 20x26½x44½ in. WITH FLOOR TRAP....	25.95
		Size 20x26½x48½ in. WITH WALL TRAP....	27.45
		Size 20x26½x48½ in. WITH FLOOR TRAP....	27.95
		Size 20x30½x52½ in. WITH WALL TRAP....	29.50
		Size 20x30½x52½ in. WITH FLOOR TRAP....	30.25
80	L-330	ONE PIECE CORNER SINK BACK AND DRAINBOARD	
		Size 20x26½x44½ in. WITH WALL TRAP....	30.00
		Size 20x26½x44½ in. WITH FLOOR TRAP....	30.50
		Size 20x26½x48½ in. WITH WALL TRAP....	32.00
		Size 20x26½x48½ in. WITH FLOOR TRAP....	32.50
		Size 20x30½x52½ in. WITH WALL TRAP....	34.50
		Size 20x30½x52½ in. WITH FLOOR TRAP....	35.00
		NOTE:—Painted Cast Iron Adjustable legs for the foregoing sinks can be furnished at \$2.75 per pair extra.	
		NOTE:—White enameled legs are included in the following drop apron sinks.	
81	L-331	ONE PIECE DROP APRON SINK	
		Size 20x30½x52¾ in. WITH WALL TRAP....	48.75
		Size 20x30½x52¾ in. WITH FLOOR TRAP....	49.25
82	L-332	ONE PIECE CORNER DROP APRON SINK	
		Size 20x30½x52¾ in. WITH WALL TRAP....	51.95
		Size 20x30½x52¾ in. WITH FLOOR TRAP....	52.50
83	L-333	DOUBLE DRAIN DROP APRON SINK	
		Size 20x26½x62¾ in. WITH WALL TRAP....	56.75
		Size 20x26½x62¾ in. WITH FLOOR TRAP....	57.25
		Size 20x30x74½ in. WITH WALL TRAP.....	83.50
		Size 20x30x74½ in. WITH FLOOR TRAP.....	84.00
84	L-334	KITCHENETTE DROP APRON SINK	
		Size 18x30 in. WITH WALL TRAP.....	26.25
		Size 18x30 in. WITH FLOOR TRAP.....	26.75
		Size 20x30 in. WITH WALL TRAP.....	29.00
		Size 20x30 in. WITH FLOOR TRAP.....	29.50

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE	Net Price
84	L-335	REVERSIBLE ROLLED RIM DRAINBOARD	
		Size 18x18 in.	\$ 4.95
		Size 20x18 in.	5.35
		Size 18x24 in.	5.75
		Size 20x24 in.	6.15
85	L-336	ENAMELED SLOP SINKS	
		Size 16x16 in. 10 in. deep.	6.75
		Size 20x24 in. 12 in. deep.	11.50
		Size 20x30 in. 12 in. deep.	17.15
85	L-337	ONE PIECE ROLL RIM SLOP SINKS	
		Size 16x20 in.	25.65
		Size 18x22 in.	30.25
		Size 20x24 in.	33.50
86	L-338	ENAMELED FLAT RIM LAUNDRY TUBS	
		One tray, size 25x26 in. floor trap.	21.75
		Two tray, size 25x52 in. floor trap.	45.50
		Three tray, size 25x78 in. floor trap.	66.75
86	L-339	ENAMELED ROLL RIM LAUNDRY TUBS	
		Two tray 25x52 in. floor trap.	66.00
		Three tray 25x78 in. floor trap.	93.50
87	L-340	GENUINE SLATINE LAUNDRY TUBS	
		One part complete, floor trap.	11.95
		Two part complete, floor trap.	16.00
		Three part complete, floor trap.	26.00
87	L-341	SLATINE LAUNDRY TUB, HIGH BACK	
		One part complete, floor trap.	13.50
		Two part complete, floor trap.	20.25
		Three part complete, floor trap.	31.50
88	L-349A	ENAMELED TWO PART LAUNDRY TUB COMPLETE	71.50
89	L-349B	ONE PIECE ROLL RIM CORNER SINKS	
		Size 20x26 1/2 x 44 1/2 in. with Wall Trap.	32.00
		Size 20x26 1/2 x 44 1/2 in. with Floor Trap.	32.50
		Size 20x26 1/2 x 48 1/2 in. with Wall Trap.	33.50
		Size 20x26 1/2 x 48 1/2 in. with Floor Trap.	34.00
		Size 20x30 1/2 x 52 1/2 in. with Wall Trap.	35.75
		Size 20x30 1/2 x 52 1/2 in. with Floor Trap.	36.25
90	L-349D	STONEWARE SINK AND LAUNDRY TUB, complete	33.50
91	L-349S	HARDIN-LAVIN KEROSENE WATER HEATER only	17.75
92	L-211A	6 foot. \$69.00 8 foot.	85.00
92	L-211	WRITE FOR PRICES	
93	L-344	ENAMELED WALL FOUNTAIN	14.00
93	L-346	ENAMELED PEDESTAL FOUNTAIN	26.00
94	L-350	1/2 in. Stop and Waste .80 5/8 in.	1.15
94	L-351	1/2 in. Stop and Waste .80 5/8 in.	1.15
94	L-352	1/2 in. Stop .75 5/8 in.	1.20
94	L-353	1/2 in. Stop and Waste .80 5/8 in.	1.25
94	L-354	1/2 in. Stop and Waste .80 5/8 in.	1.25
94	L-355	3/4 in. Roundway. 1.75 1 in.	2.75
94	L-356	3/4 in. Roundway. 1.75 1 in.	2.75
94	L-357	3/4 in. Stop and Waste 1.55 1 in.	2.25
95	L-358	1/2 in. POLISHED. .75 1/2 in. N'K'L-PL'D.	.95
		3/4 in. POLISHED. 1.00 3/4 in. N'K'L-PL'D.	1.15
95	L-359	1/2 in. POLISHED. .75 1/2 in. N'K'L-PL'D.	.95
		3/4 in. POLISHED. 1.00 1/2 in. N'K'L-PL'D.	1.15
95	L-360	1/2 in. POLISHED. .90 1/2 in. N'K'L-PL'D.	1.05
		3/4 in. POLISHED. 1.10 3/4 in. N'K'L-PL'D.	1.25
95	L-361	1/2 in. POLISHED. .90 1/2 in. N'K'L-PL'D.	1.05
		3/4 in. POLISHED. 1.10 1/2 in. N'K'L-PL'D.	1.25
95	L-362	1/2 in. POLISHED. 1.10 3/4 in. N'K'L-PL'D.	1.25
		3/4 in. POLISHED. 1.25 3/4 in. N'K'L-PL'D.	1.50
95	L-363	1/2 in. POLISHED. .95 1/2 in. N'K'L-PL'D.	1.15
		3/4 in. POLISHED. 1.15 3/4 in. N'K'L-PL'D.	1.35
96	L-364	1/2 in. POLISHED. 1.20 1/2 in. N'K'L-PL'D.	1.35
		3/4 in. POLISHED. 1.35 3/4 in. N'K'L-PL'D.	1.50
96	L-365	1/2 in. POLISHED. 1.15 1/2 in. N'K'L-PL'D.	1.30
		3/4 in. POLISHED. 1.30 3/4 in. N'K'L-PL'D.	1.45
96	L-366	1/2 in. POLISHED. 1.05 1/2 in. N'K'L-PL'D.	1.20
		3/4 in. POLISHED. 1.35 3/4 in. N'K'L-PL'D.	1.50

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE		Net Price
96	L-367	1/2 in. POLISHED	\$0.70	1/2 in. HOSE.....\$ 0.85
96	L-368	FULLER EXTENSION PIECE.....		.55
96	L-369	FULLER ECCENTRICS, each.....		.20
96	L-370	FULLER STEMS, each.....		.20
96	L-371	1/2 in. Cold, per doz.	\$0.15	1/2 in. Hot, per doz. .20
96	L-371	5/8 in. Cold, per doz.	.20	5/8 in. Hot, per doz. .25
96	L-372	FULLER CAPS, per doz.....		.12
96	L-373	FULLER NUTS, per doz.....		.15
96	L-374	FULLER PACKING, per doz.....		.15
97	L-375	FULLER BASIN COCK, each.....		1.50
97	L-376	FULLER BASIN COCK, each.....		2.20
97	L-377	COMPRESSION BASIN COCK, each.....		.90
97	L-378	COMPRESSION BASIN COCK, each.....		1.10
98	L-379	1/2 in. POLISHED	\$0.85	1/2 in. N'K'L-PL'D. 1.05
		3/4 in. POLISHED	1.15	3/4 in. N'K'L-PL'D. 1.30
98	L-380	1/2 in. POLISHED	.90	1/2 in. N'K'L-PL'D. 1.10
		3/4 in. POLISHED	1.20	3/4 in. N'K'L-PL'D. 1.35
98	L-381	1/2 in. POLISHED	1.05	1/2 in. N'K'L-PL'D. 1.20
		3/4 in. POLISHED	1.30	3/4 in. N'K'L-PL'D. 1.45
98	L-382	1/2 in. POLISHED	1.00	1/2 in. N'K'L-PL'D. 1.15
		3/4 in. POLISHED	1.25	3/4 in. N'K'L-PL'D. 1.40
98	L-383	1/2 in. POLISHED	1.15	1/2 in. N'K'L-PL'D. 1.30
		3/4 in. POLISHED	1.40	3/4 in. N'K'L-PL'D. 1.55
98	L-384	1/2 in. POLISHED	1.25	1/2 in. N'K'L-PL'D. 1.40
		3/4 in. POLISHED	1.50	3/4 in. N'K'L-PL'D. 1.65
99	L-385	SELF-CLOSING BASIN COCK, each.....		2.45
99	L-386	SELF-CLOSING BASIN COCK, each.....		3.25
99	L-387	SELF-CLOSING BASIN COCK, each.....		3.35
99	L-388	1/2 in. POLISHED	\$2.35	1/2 in. N'K'L-PL'D. 2.65
99	L-389	1/2 in. POLISHED	2.45	1/2 in. N'K'L-PL'D. 2.75
99	L-390	SELF-CLOSING STOP, 3/8 in., \$2.10; 1/2 in.....		2.30
100	L-391	3/4 in. POLISHED	\$1.25	3/4 in. N'K'L-PL'D. 1.40
100	L-392	3/4 in. POLISHED	1.55	3/4 in. N'K'L-PL'D. 1.85
100	L-393-4	SILL COCKS, 1/2 in. and 3/4 in., each.....		1.00
101	L-395	SINGLE PANTRY FAUCET.....		2.40
101	L-396	DOUBLE PANTRY FAUCET.....		6.30
101	L-397	DOUBLE BARBER FAUCET.....		8.50
101	L-398	DOUBLE BARBER FAUCET.....		17.85
101	L-399	DOUBLE BARBER FAUCET.....		19.95
102	L-400	FULLER BATH COCK. Less Jewel Cup.....		3.75
102	L-401	COMPRESSION BATH COCK.....		3.35
102	L-402	1/2 in. NICKEL-PLATED.	\$1.35	3/4 in. 1.55
102	L-403	QUICK COMPRESSION BASIN COCK, each....		1.50
102	L-404	QUICK COMPRESSION BATH COCK.....		3.50
103	L-405	S. & K. RAINBOW SHAMPOO OUTFIT.....		13.50
103	L-406	COMPRESSION FAUCET DISCS, per doz.....		.15
103	L-407-8	CHINA HANDLE, INDEXED, each.....		.70
103	L-409	FOUR ARM CHINA HANDLE, each.....		1.50
103	L-410	FOUR BALL INDEXED HANDLE, each.....		.60
104	L-411	1 1/4 in. N. P. P. TRAP with P. O. PLUG.....		1.65
		1 1/2 in. N. P. P. TRAP less P. O. PLUG.....		1.65
104	L-412	1 1/4 in. N. P. VENTED P TRAP with P. O. PLUG.....		2.60
		1 1/2 in. N. P. VENTED P TRAP less P. O. PLUG.....		2.65
104	L-413	1 1/4 in. N. P. S TRAP with P. O. PLUG.....		2.20
		1 1/2 in. N. P. S TRAP less P. O. PLUG.....		2.20
104	L-414	1 1/4 in. N. P. VENTED S TRAP with P. O. PLUG.....		3.00
		1 1/2 in. N. P. VENTED S TRAP less P. O. PLUG.....		3.15
105	L-417	1 1/2 in. N. P. VENTED S TRAP with CLEAN OUT.....		4.75
105	L-418	1 1/2 in. N. P. P TRAP with CLEANOUT.....		4.25
106	L-419	1 1/4 in. N. P. P TRAP with P. O. PLUG.....		5.65
		1 1/2 in. N. P. P TRAP less P. O. PLUG.....		5.65
106	L-420	1 1/4 in. N. P. S TRAP with P. O. PLUG.....		5.85
		1 1/2 in. N. P. S TRAP less P. O. PLUG.....		6.00
107	L-421	WASTE and OVERFLOW with TRAP.....		5.25
107	L-422	WASTE and OVERFLOW.....		2.40
107	L-423	IDEAL BATH WASTE.....		7.90
		IDEAL BASIN WASTE.....		4.85
107	L-424	LOW BELL SUPPLY and WASTE FITTINGS.....		29.00
108	L-425	1 1/4 in. N. P. OFFSET FLUSH PIPE.....		2.10
108	L-426	1 1/4 in. N. P. STRAIGHT FLUSH PIPE.....		2.35

Page Book	Number in Book	PICTURE OR ARTICLE COMPLETE	Net Price
108	L-427	$\frac{3}{8}$ in. N. P. STRAIGHT SUPPLY PIPE.....	\$ 2.75
108	L-428	$\frac{3}{8}$ in. N. P. OFFSET SUPPLY PIPE.....	2.75
108	L-429	$\frac{3}{8}$ in. N. P. SUPPLY PIPE	2.00
108	L-430	$\frac{3}{8}$ in. N. P. SUPPLY PIPE	1.00
109	L-431-3	WRITE FOR LATE PRICES.	
110	L-434	$\frac{3}{8}$ in. N. P. LAVATORY WALL SUPPLIES, per pair.....	1.60
110	L-435	$\frac{3}{8}$ in. N. P. LAVATORY WALL SUPPLIES, per pair.....	3.65
110	L-436	HANDY LAVATORY WALL SUPPLIES, per pair.....	1.00
110	L-437	$\frac{3}{8}$ in. N. P. LAVATORY FLOOR SUPPLIES, per pair.....	1.75
110	L-438	$\frac{3}{8}$ in. N. P. LAVATORY FLOOR SUPPLIES, per pair.....	3.90
110	L-439	HANDY LAVATORY FLOOR SUPPLIES, per pair.....	1.35
111	L-440	N. P. BATH SUPPLY PIPES.....	2.75
111	L-441	N. P. BATH SUPPLY PIPES.....	2.85
111	L-442	N. P. BATH SUPPLY PIPES.....	3.00
111	L-443	N. P. BATH SUPPLY PIPES.....	1.50
111	L-444-5	LOOSE KEY STOPS, $\frac{3}{8}$ in.....\$1.25; $\frac{1}{2}$ in.....	1.55
111	L-446-7	WHEEL HANDLE STOPS, $\frac{3}{8}$ in. 1.25; $\frac{1}{2}$ in.....	1.55
112	L-448	NICKEL PLATED BRASS STRAINER.....	.20
112	L-449	STRAINER and PLUG.....	.40
112	L-450	PATENT SINK STRAINER.....	1.25
112	L-451	OLD STYLE SINK COLLAR.....	.15
112	L-452	TAPPED SINK COLLAR.....	.30
112	L-453-4	SINK BOLTS, per doz.....	.20
112	L-455	BRASS LAUNDRY TUB PLUG, each.....	.35
112	L-456	BRASS BASIN CLAMPS, each.....	.10
112	L-457	OLD STYLE BAR PLUG, each.....	.30
113	L-458	COMMON OVERFLOW BASIN PLUG.....	.75
113	L-459	PATENT OVERFLOW BASIN PLUG.....	.75
113	L-460	BRASS WASTE PLUG.....	2.50
113	L-461	BRASS WASTE PLUG.....	2.00
113	L-462	N. P. BRASS CHAIN, per yard.....	.12
113	L-463	N. P. COCK HOLE COVER.....	.25
113	L-464	SUPPLY PIPE HOLDER.....	.70
113	L-465	FLUSH PIPE HOLDER.....	1.20
113	L-466	FLUSH PIPE BUMPER.....	.35
114	L-467	2 in. N. P. FLUSH ELBOW, complete.....	1.30
114	L-468	1 $\frac{1}{4}$ in. N. P. FLUSH ELBOW, complete.....	.70
114	L-469	2 in. N. P. OFFSET, complete.....	1.30
114	L-470	2 in. N. P. STRAIGHT, complete.....	1.10
114	L-492-4	SOLDER NIPPLES. Take off 30%	
115	L-476	BRASS FERRULES. Size 2 in.....\$0.50; 4 in.....	1.10
115	L-477	BRASS CLEANOUT PLUG, 4 in.....	2.05
115	L-478	IRON FERRULE. 4 in.....	.30
115	L-479	CLEANOUT PLUG. Size 2 in.....\$0.40; 4 in.....	.75
115	L-480	BRASS CLOSET FLANGE.....	.60
115	L-481	CLOSET SCREW and NUT.....	.05
115	L-482	CLOSET BOLT and NUT.....	.08
115	L-483	CLOSET BOLT WASHER.....	.02
115	L-484	STRAINER. Take off 60%	
115	L-485	BEE HIVE STRAINER.....	3.20
115	L-486	BRASS STRAINER.....	4.95
117	L-495-6	PATENT COUPLING. Take off 15%	
118	L-497	TAKE OFF 35% FROM BOOK PRICES	
118	L-498	TAKE OFF 30% FROM BOOK PRICES	
119	L-499	PURE SOFT LEAD. Per pound.....	.09
119	L-500	PURE TIN. Per pound.....	.65
119	L-501	HALF and HALF SOLDER. Per pound.....	.30
119	L-502	PLUMBERS' SOLDER. Per pound.....	.28
119	L-503	TAKE OFF 35% FROM BOOK PRICES	
119	L-504-5	4x8 in.....\$2.25 4x10 in.....	2.50
120	L-506-16	TAKE OFF 40% FROM BOOK PRICES	
121	L-517-19	TAKE OFF 35% FROM BOOK PRICES	
122	L-520-34	TAKE OFF 50% FROM BOOK PRICES	
122	L-535	FURNACE BULB, each, net.....	.60
122	L-536	FULLER BALLS, per lb. Cold...\$0.60; Hot...	.70
123	L-537-8	TAKE OFF 30% FROM BOOK PRICES	
123	L-539-41	TAKE OFF 30% FROM BOOK PRICES	
123	L-542	PLUMBERS' FURNACE.....	7.35
123	L-543	PLUMBERS' FURNACE.....	7.95

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124.	L-544.	PLUMBERS' TORCH	\$ 6.75
124.	L-545.	PLUMBERS' TORCH	7.75
124.	L-546.	PLUMBERS' TOOL BAG	7.00
124.	L-547.	PLUMBERS' CANDLE, each	.07
124.	L-548.	PLUMBERS' FORCE PUMP	9.00
124.	L-549.	MELTING POT	.50
124.	L-550.	POURING LADLE	.40
124.	L-551.	TURN PIN	.25
124.	L-552.	DRIFT PLUG	.15
124.	L-553-55.	CALKING IRONS, each	.50
125.	L-556.	RASP	1.50
125.	L-557.	HACK SAW	1.50
125.	L-558.	SHAVE HOOK	.35
125.	L-559.	TAP BORER	.35
125.	L-560.	BENDING SPRINGS, State size wanted	1.15
125.	L-561.	CATCH BASIN DIPPER	3.50
125.	L-562.	SOLDER COPPER	.80
125.	L-563.	SEWER ROD, Per ft.	.13
125.	L-564.	WIPING CLOTH, Each	.40
125.	L-565.	NICKEL PIPE WRENCH	2.75
126.	L-566.	LIFT AND FORCE PUMP	4.75
126.	L-567.	SNAKE CLOSET BOWL CLEANER	4.75
127.	L-568.	STOCKS AND DIES No. 1...\$6.75 No. 2...	8.75
127.	L-569.	EXTRA DIE No. 1 STOCK, State size	1.15
127.	L-569.	EXTRA DIE No. 2 STOCK, State size	1.80
127.	L-570.	EXTRA GUIDE No. 1 STOCK, State size	.30
127.	L-570.	EXTRA GUIDE No. 2 STOCK, State size	.50
127.	L-571.	ARMSTRONG STOCK AND DIES No. 1 SET	7.50
127.	L-571.	ARMSTRONG STOCK AND DIES No. 2 SET	11.25
127.	L-572.	SAUNDER PIPE CUTTER, No. 1...\$1.95 No. 2	2.85
127.	L-573.	BARNES PIPE CUTTER, No. 1... 2.25 No. 2	3.15
128.	L-574.	TOLEDO STOCK AND DIES, No. 0...	15.75
128.	L-574.	TOLEDO STOCK AND DIES, No. 10...	21.00
128.	L-576-7	STILLSON PIPE WRENCHES	
		10 in. WRENCH \$1.24	18 in. WRENCH 2.50
		14 in. WRENCH 1.65	24 in. WRENCH 3.50
			36 in. WRENCH 6.50
128.	L-578.	1/8 in. PIPE TAP...\$0.45	3/4 in. PIPE TAP... 1.25
		1/4 in. PIPE TAP... .50	1 in. PIPE TAP... 1.90
		3/8 in. PIPE TAP... .70	1 1/4 in. PIPE TAP... 2.50
		1/2 in. PIPE TAP... .85	1 1/2 in. PIPE TAP... 3.30
128.	L-579.	1/8 in. PIPE REAMER	.65
		1/4 in. PIPE REAMER	.80
		3/8 in. PIPE REAMER	1.05
		1/2 in. PIPE REAMER	1.30
		3/4 in. PIPE REAMER	1.80
		1 in. PIPE REAMER	2.80
		1 1/4 in. PIPE REAMER	3.88
		1 1/2 in. PIPE REAMER	4.70
129.	L-580.	PIPE VISE No. 1...\$3.60 No. 2	5.75
129.	L-581.	RESEATING TOOL	2.25
129.	L-582.	RADIATOR VALVE WRENCH	1.50
129.	L-583.	PIPE REAMER	2.60
129.	L-584.	CHAIN TONGS	7.50
129.	L-585.	GAUGE GLASS CUTTER	1.50
129.	L-586.	BALL PIEN HAMMER	1.45
129.	L-587.	PLUMBERS' PLIERS	1.10
129.	L-588.	6 in. HANDY PLIERS	.85
130.	L-589.	CLINKER TONGS	2.25
131.	L-591 1/2	FORGE AND MACHINE OUTFIT	21.50
132.	L-592.	RANGE BOILERS	
		Standard	Extra Heavy
		30 gal. capacity...\$ 9.65	11.25
		40 gal. capacity... 12.00	14.50
		52 gal. capacity... 19.50	23.50
		66 gal. capacity... 31.50	46.50
		82 gal. capacity... 37.75	56.25
132.	L-593-4	GALVANIZED BOILER UNIONS, Each	.45
132.	L-595.	ADJ. BOILER STAND, 30 and 40 gallon size	.60
132.	L-595.	ADJ. BOILER STAND, 52 and 66 gallon size	2.20
132.	L-595.	ADJ. BOILER STAND, 82 and 100 gallon size	2.50
132.	L-595 1/2	1/2 in BOILER FILLER TUBE	.35
132.	L-596-7	BOILER UNIONS	Discontinued
133.	L-598.	COMB. PEERLESS BOILER, cap. 30 gal.	28.75
134.	L-600.	GAS WATER HEATER, No. 6 \$ 6.75 No. 7	7.50
134.	L-601.	GAS WATER HEATER, No. 25. 11.00 No. 26	12.25

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE		Net Price
135	L-602½	NEW IMPROVED INST. HEATER. No. 2½	\$ 90.00	
		NEW IMPROVED INST. HEATER. No. 3	117.50	
		NEW IMPROVED INST. HEATER. No. 4	160.00	
136	L-603	SPECIAL 40 GAL. TWO-HOLE HEATER	10.25	
136	L-603	REGULAR 60 GAL. TWO-HOLE HEATER	13.50	
136	L-604	HEATER. No. 1, 80 gal. \$28.00 No. 2, 125 gal.	40.50	
137	L-605½	NEW TANKLESS WATER SUPPLY SYSTEM	122.50	
138	L-607	HOT WATER AND PNEUMATIC TANKS		
		Size Gal. Pneumatic Hot Water Tanks		
		24x5 ft. 120.....	\$36.00	\$37.50
		24x6 ft. 145.....	41.00	42.50
		30x6 ft. 220.....	52.00	53.50
		36x8 ft. 315.....	76.50	78.00
138	L-608	Size 2 x2x 4 ft. OPEN STORAGE TANK	8.20	
		Size 2½x2x 8 ft. OPEN STORAGE TANK	16.00	
		Size 3 x3x10 ft. OPEN STORAGE TANK	24.15	
139	L-609	HAND POWER WATER SUPPLY SYSTEM		
		With 24x5, 120 gal. black tank	66.00	
		With 24x6, 145 gal. black tank	69.00	
		With 30x6, 220 gal. black tank	80.75	
139	L-609	DOUBLE ACTING PUMP ONLY	16.00	
140	L-611	AUTOMATIC ELECTRIC WATER SUPPLY SYSTEM		
		State kind of current you have.		
		With 22x5, 100 gal. black tank	129.00	
		With 24x5, 120 gal. black tank	131.00	
141	L-611-H	PUMPING UNIT with ⅓ H.P. D. C. MOTOR	165.00	
		PUMPING UNIT with ½ H.P. D. C. MOTOR	186.00	
143	L-611-C	DEEP WELL ELECTRIC WATER SYSTEM		
		No. 1, 30x6, 220 gal. Tank ⅓ H.P. D. C. MOTOR	235.50	
		No. 2, 30x6, 220 gal. Tank ⅓ H.P. A. C. MOTOR	251.25	
		No. 3, 30x8, 295 gal. Tank ⅓ H.P. D. C. MOTOR	280.00	
		No. 4, 30x8, 295 gal. Tank ⅓ H.P. A. C. MOTOR	295.00	
		NOTE: Use ½ h.p. motor on wells of 150 ft. or more in depth.		
144	L-614	WATER MOTOR LIFT	56.50	
145	L-612	GAS ENGINE SHALLOW WELL OUTFITS		
		No. 1, with 30x6, 220 gal. Tank and 1 h.p. Engine, capacity 400 gal. per hour	247.50	
		No. 2, 30x8, 295 gal. Tank and 1½ h.p. Engine, capacity 500 gal. per hour	285.00	
146	L-613	DEEP WELL ENGINE OUTFITS		
		No. 1, with 30x6, 220 gal. Tank 1 h.p. Engine	255.00	
		No. 2, with 30x8, 295 gal. Tank 1½ h.p. Engine	295.00	
147	L-1250	PITCHER SPOUT PUMP 3 in. Iron Cylinder	2.15	
		PITCHER SPOUT PUMP 3 in. Brass Cylinder	3.75	
147	L-1240	POWERFUL HOUSE FORCE PUMP	6.25	
148	L-1208	NON-FREEZING LIFT PUMP		
		With Polished Iron Cylinder	6.80	
		With Brass Lined Cylinder	8.50	
149	L-1212	HAND LIFT PUMP STANDARD	4.75	
150	L-1202	HEAVY NON-FREEZING LIFT PUMP		
		With Polished Iron Cylinder	7.00	
		With Polished Brass Cylinder	8.65	
151	L-1225	NON-FREEZING HAND FORCE PUMP		
		With Polished Iron Cylinder	8.55	
		With Polished Brass Cylinder	10.25	
152	L-1243	HEAVY SET LENGTH WINDMILL PUMP		
		With 3½ in. Polished Iron Cylinder	9.50	
		With 4 in. Polished Iron Cylinder	11.50	
		With 3½ in. Brass Lined Cylinder	10.85	
		With 4 in. Brass Lined Cylinder	13.25	
153	L-1339	DOUBLE ACTING HAND FORCE PUMP		
		With 2½ in. Polished Iron Cylinder	10.15	
		With 3 in. Polished Iron Cylinder	10.45	
		With 2½ in. Brass Cylinder	11.65	
		With 3 in. Brass Cylinder	12.15	

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE	Net Price
154	L-1218	DOUBLE ACTING HAND FORCE PUMP With 3 in. Polished Iron Low Cylinder.....\$ With 3 in. Brass Lined Low Cylinder.....	10.50 12.00
155	L-1280	HEAVY WINDMILL D. A. FORCE PUMP With 6 in. Set Stroke..... With Adjustable Stroke.....	14.25 15.10
156	L-1233	SET LENGTH WINDMILL FORCE PUMP With 3½ in. Polished Iron Cylinder..... With 4 in. Polished Iron Cylinder..... With 3½ in. Brass Lined Cylinder..... With 4 in. Brass Lined Cylinder.....	11.95 12.85 13.50 14.55
157	L-1207½	HEAVY D. A. WINDMILL FORCE PUMP With 1½ in. barrel, 6 in. stroke..... With 2 in. barrel, 10 in. stroke.....	16.25 22.05
158	L-1235	DOUBLE ACTING 3 WAY PUMP With 3 in. Polished Iron Cylinder..... With 3½ in. Polished Iron Cylinder..... With 3 in. Brass Lined Cylinder..... With 3½ in. Brass Lined Cylinder.....	13.05 13.90 14.75 15.25
159	L-2223	WRITE FOR LATE PRICES	
159	L-1120	WRITE FOR LATE PRICES	
160	L-50	DRIVE WELL POINTS. Take off 30%	
160	L-51	ALL IRON CYLINDERS. Take off 15%	
160	L-51	BRASS LINED CYLINDER. Take off 25%	
160	L-51	FOOT VALVES. Prices in book are net.	
160	L-53-5	TAKE OFF 25% FROM BOOK PRICES	
161	L-616	CELLAR DRAINER, No. 1..\$28.00 No. 2....	32.50
162	L-617	ROPE OAKUM, Per lb.....	.08½
162	L-618	SMOOTH-ON CEMENT, Per lb.....	.38
162	L-619	TESTING PLUGS, 2 in.....\$1.10 4 in.....	1.60
162	L-620	POURING ROPE, 2 in. to 4 in.....	2.50
163	L-621	2 in. Std. S. H. SOIL PIPE 5 ft. \$1.00 Ex. Hy. 4 in. Std. S. H. SOIL PIPE 5 ft. 1.70 Ex. Hy.	1.30 2.75
163	L-622	2 in. Std. D. H. SOIL PIPE 5 ft. 1.05 Ex. Hy. 4 in. Std. D. H. SOIL PIPE 5 ft. 1.80 Ex. Hy.	1.35 2.85
163	L-623	2 in. Std. ¼ BEND ..... .33 Ex. Hy. 4 in. Std. ¼ BEND ..... .52 Ex. Hy.	.45 .62
163	L-624	2 in. Std. 1/5 BEND ..... .36 Ex. Hy. 4 in. Std. 1/5 BEND ..... .65 Ex. Hy.	.48 .80
163	L-625	2 in. Std. 1/6 BEND ..... .33 Ex. Hy. 4 in. Std. 1/6 BEND ..... .52 Ex. Hy.	.45 .62
163	L-626-7	2 in. Std. ⅜ Bend ..... .33 Ex. Hy. 4 in. Std. ⅜ BEND ..... .52 Ex. Hy.	.45 .62
163	L-628-9	2 in. Std. ¾ BEND 1.00 Ex. Hy. 4 in. Std. ¾ BEND 1.15 Ex. Hy.	1.20 1.55
163	L-630-1	2 in. Std. ¼ BEND ..... .62 Ex. Hy. 4 in. Std. ¼ BEND ..... .96 Ex. Hy.	.75 1.14
164	L-632	2 in. Std. TEE ..... .42 Ex. Hy. 4 in. Std. TEE ..... .87 Ex. Hy.	.61 1.13
164	L-633	2 in. Std. SAN. TEE ..... .42 Ex. Hy. 4 in. Std. SAN. TEE ..... .87 Ex. Hy.	.61 1.13
164	L-634	2 in. Std. Y. BRANCH ..... .42 Ex. Hy. 4 in. Std. Y. BRANCH ..... .87 Ex. Hy.	.61 1.13
164	L-635	4 in. Std. SAN T. 2 in. INLET 2.00 Ex. Hy.	2.25
164	L-636	4 in. Std. SAN. TEE 3.65 Ex. Hy.	4.49
164	L-637-8	2 in. Std. SAN. TAP. T. ..... .56 Ex. Hy. 4 in. Std. SAN. TAP. T. ..... .95 Ex. Hy.	.69 1.16
164	L-639	2 in. Std. SINGLE HUB ..... .41 Ex. Hy. 4 in. Std. SINGLE HUB ..... .57 Ex. Hy.	.49 .73
164	L-640	2 in. Std. DOUBLE HUB ..... .33 Ex. Hy. 4 in. Std. DOUBLE HUB ..... .55 Ex. Hy.	.41 .61
164	L-641	2 in. Std. SLEEVE ..... .55 Ex. Hy. 4 in. Std. SLEEVE ..... .61 Ex. Hy.	.61 .73
164	L-642	4 in. Std. VENT CAP ..... .73 Ex. Hy.	.89
164	L-643	2x4 in. Std. INCREASE ..... .95 Ex. Hy. 4x5 in. Std. INCREASE 1.75 Ex. Hy.	1.18 2.15

Page Book	Number in Book	PICTURE OR ARTICLE COMPLETE		Net Price
164....	L-644.....	2x12 in. Std. EXTENSION	\$0.75 Ex. Hy.	.94
		4x8 in. Std. EXTENSION	1.05 Ex. Hy.	1.30
165....	L-645.....	2 in. Std. SAN. CROSS	1.00 Ex. Hy.	1.25
		4 in. Std. SAN. CROSS	1.45 Ex. Hy.	1.70
165....	L-646.....	4 in. Std. SAN. CROSS	2.00 Ex. Hy.	2.35
165....	L-647.....	2 in. Std. TAP. CROSS .....	.75 Ex. Hy.	.90
		4 in. Std. TAP. CROSS .....	.90 Ex. Hy.	1.05
165....	L-648.....	2 in. Std. SAN. TAP. CROSS....	.85 Ex. Hy.	1.00
		4 in. Std. SAN. TAP. CROSS	1.10 Ex. Hy.	1.35
165....	L-649-51.....	2 in. Std. TRAPS .....	.80 Ex. Hy.	.90
		4 in. Std. TRAPS	1.25 Ex. Hy.	1.50
165....	L-652.....	4 in. Std. TRAPS	2.05 Ex. Hy.	2.50
165....	L-653.....	4 in. Std. TRAPS	1.80 Ex. Hy.	2.25
165....	L-654.....	2 in. SISSON JOINT		1.25
		4 in. SISSON JOINT		2.50
166....	L-655.....	2x4 in. Std. OFFSET .....	.50 Ex. Hy.	.65
		2x8 in. Std. OFFSET .....	.65 Ex. Hy.	.80
		4x4 in. Std. OFFSET .....	.85 Ex. Hy.	1.00
		4x8 in. Std. OFFSET	1.00 Ex. Hy.	1.25
168....	L-656.....	4 in. Std. DOUBLE Y	1.55 Ex. Hy.	1.85
168....	L-657.....	2 in. Std. C. O. T.	1.20 Ex. Hy.	1.45
		4 in. Std. C. O. T.	1.50 Ex. Hy.	2.10
166....	L-658.....	2 in. Std. C. O. Y.	1.35 Ex. Hy.	1.60
		4 in. Std. C. O. Y.	2.00 Ex. Hy.	2.40
166....	L-659.....	2 in. Std. SADDLE .....	.80 Ex. Hy.	1.05
		4 in. Std. SADDLE	1.00 Ex. Hy.	1.20
166....	L-660.....	2 in. Std. PIPE REST .....	.25 Ex. Hy.	.35
		4 in. Std. PIPE REST .....	.35 Ex. Hy.	.45
166....	L-661.....	MAR STRAINER. Size 4 in. ....		.15
		Size 5 in. \$0.17 Size 6 in. ....		.15
		Size 7 in. .... .35 Size 8 in. ....		.45
166....	L-662.....	2 in. Std. ROOF PLATE .....	.33 Ex. Hy.	.48
		4 in. Std. ROOF PLATE .....	.41 Ex. Hy.	.65
		5 in. Std. ROOF PLATE .....	.60 Ex. Hy.	1.04
166....	L-663.....	HINGED BELL TRAP, 6x6 in. .....		.65
		9x9 in. \$1.05 13x13 in.		2.25
166....	L-664.....	HEAVY CESSPOOL, 16x16x10 in.		5.00
167....	L-665.....	AUTOMATIC BACK WATER TRAP		
		Size 4 in. \$6.25 Size 6 in.		10.00
167....	L-666.....	GALV. REFRIGERATOR DRAIN		1.00
167....	L-667.....	BACK WATER GRATE and SHUTTER		3.00
167....	L-668.....	PTD. LAUNDRY TUB LEGS, each .....		.75
168....	L-669.....	TAPPED ADJ. CLOSET BEND, 4x15 in.		1.95
168....	L-670.....	PLAIN ADJ. CLOSET BEND, 4x15		1.80
168....	L-671.....	DRUM TRAP, 4x5 in.		1.15
168....	L-672.....	DRUM TRAP, 4x8½ in.		1.55
168....	L-673.....	DRUM TRAP, 4x8½ in.		1.75
168....	L-674.....	DRUM TRAP, 4x8½ in.		1.95
169....	L-675-6.....	F. & W. FITTINGS. Write for late prices.		
169....	L-677.....	2 in. GALV. ROOF FLANGE		1.00
		4 in. GALV. ROOF FLANGE		1.20
		5 in. GALV. ROOF FLANGE		1.55
170....	L-678.....	FROST PROOF HYDRANT, ¾ in.		10.80
		Size 1 in.		14.75
170....	L-679.....	FROST PROOF HYDRANT, ¾ in.		13.00
170....	L-680.....	FROST PROOF STREET WASHER, ¾ in.		9.50
170....	L-681.....	SERVICE BOX KEY, each .....		.20
170....	L-682.....	ADJ. SERVICE BOX		1.50
170....	L-683.....	ADJ. SERVICE BOX EXTENSION .....		.90
171....	L-684-5.....	CAST IRON "S" TRAPS		
		Size 1¼ in. short. \$1.05 1¼ in. long.		1.60
		Size 1½ in. short. 1.40 1½ in. long.		2.10
171....	L-686-7.....	CAST IRON "P" TRAPS		
		Size 1¼ in. regular.. .80 1½ in. regular...		1.05

Page Book	Number in Book	PIXTURE OR ARTICLE COMPLETE	Net Price
171	L-688	GALV. 1½ in. UNIVERSAL "P" TRAP	\$1.60
171	L-689	STEEL SINK FRAME	1.75
171	L-690	STEEL LAUNDRY TUB FRAME	3.00
173-9	L-709-11	HOT WATER and STEAM BOILERS. On Application	
180-1	L-712	RADIATORS. Prices on application.	
182	L-719	SEND SKETCH FOR ESTIMATE	
183	L-720	AUTOMATIC AIR STEAM VALVE	.38
183	L-721	WHEEL HANDLE AIR VALVE	.18
183	L-722	LOOSE KEY AIR VALVE	.15
183	L-723	AIR VALVE KEY	.05
183	L-724	ONE POUND CAN GOLD BRONZE	1.30
		ONE CAN ALUMINUM BRONZE	1.50
183	L-725	ONE-HALF GALLON RADIATOR ENAMEL	3.00
183	L-726	BRONZING LIQUID, ONE GALLON	1.60
183	L-727	BRONZING BRUSH	.50
184	L-728	GALV. EXPANSION TANKS. Complete	
		Size 10 gal.....\$7.75	12 gal..... 8.15
		Size 15 gal..... 8.75	20 gal..... 11.50
184	L-729½	AUTOMATIC REGULATOR	15.00
184	L-730	ADJUSTABLE TANK SUPPORT	1.50
184	L-731	HOT WATER CIRCULATOR	23.50
185	L-732	HOT WATER RADIATOR VALVES	
		Size ½ in.....\$0.75	¾ in..... .90
		Size 1 in..... 1.10	1¼ in..... 1.55
		Size 1½ in..... 2.15	2 in..... 3.25
185	L-733	HOT WATER RADIATOR UNION ELLS	
		Size ½ in.....\$0.55	¾ in..... .60
		Size 1 in..... .75	1¼ in..... .95
		Size 1½ in..... 1.25	2 in..... 2.10
185	L-734	STEAM RADIATOR VALVES	
		Size ¾ in.....\$1.15	1 in..... 1.45
		Size 1¼ in..... 1.95	1½ in..... 2.45
185	L-735	CORNER STEAM RADIATOR VALVES	
		Size ¾ in.....\$1.45	1 in..... 2.00
		Size 1¼ in..... 2.50	1½ in..... 3.25
186	L-736	AUTOMATIC DAMPER REGULATOR, Com- plete	7.50
186	L-737	SAFETY FUSE PLUGS, Size ½ in.	.40
		Size ¾ in.....\$0.50	Size 1 in..... .60
186	L-738-9	PET COCKS. Prices on application.	
186	L-740	SQUARE HEAD STEAM COCKS, Size ½ in.	.85
		Size ¾ in.....\$1.15	Size 1 in..... 1.50
186	L-741	NICKEL-PLATED FLOOR and CEILING PLATES	
		Size ½ in.....\$0.80	Size ¾ in..... .09
		Size 1 in..... .10	Size 1¼ in..... .11
		Size 1½ in..... .13	Size 2 in..... .16
186	L-742	ADJ. FLUE CLEANERS	
		Size 1½ in.....\$1.65	Size 2 in..... 1.75
		Size 2½ in..... 2.00	Size 3 in..... 2.45
186	L-743	EXPANSION JOINT. Prices on application.	
187	L-744	EXPANSION TANK GAUGE SET. Give length of glass	1.50
187	L-745	STEAM BOILER GAUGE SET	2.25
187	L-746	WATER COLUMN and GAUGE SET	7.00
187	L-747	STRAIGHT or ANGLE THERMOMETER	1.25
187	L-748	LOW PRESSURE STEAM GAUGE	3.30
187	L-749	ALTITUDE GAUGE	3.25
187	L-750	GAUGE GLASSES. State length.	.40
188	L-751-4	BRANCH TEES. Prices on application.	
188	L-755	ADJUSTABLE RING HANGERS ONLY	
		Size ½ in.....\$0.03	Size ¾ in..... .04
		Size 1 in..... .05	Size 1¼ in..... .06
		Size 1½ in..... .07	Size 2 in..... .08
		Size 2½ in..... .10	Size 3 in..... .12
		Add 4c per ft. for STRAP IRON	

Page Number in Book	Book	FIXTURE OR ARTICLE COMPLETE		Net Price	
188....	L-756.....	CAST FLANGE UNIONS			
		Size $\frac{3}{4}$ in.....	\$0.30	Size 1 in.....	\$0.35
		Size $1\frac{1}{4}$ in.....	.45	Size $1\frac{1}{2}$ in.....	.60
		Size 2 in.....	.70	Size $2\frac{1}{2}$ in.....	.90
		Size 3 in.....	1.10	Size $3\frac{1}{2}$ in.....	1.35
189....	L-757-9.....	STANDARD GLOBE, ANGLE and CHECK VALVES			
		Size $\frac{1}{8}$ in.....	\$0.38	Size $\frac{1}{4}$ in.....	.40
		Size $\frac{3}{8}$ in.....	.45	Size $\frac{1}{2}$ in.....	.60
		Size $\frac{1}{2}$ in.....	.75	Size 1 in.....	1.10
		Size $1\frac{1}{4}$ in.....	1.55	Size $1\frac{1}{2}$ in.....	2.10
189....	L-760.....	STANDARD GATE VALVES			
		Size $\frac{1}{2}$ in.....	\$0.90	Size $\frac{3}{4}$ in.....	1.10
		Size 1 in.....	1.50	Size $1\frac{1}{4}$ in.....	1.95
		Size $1\frac{1}{2}$ in.....	2.65	Size 2 in.....	4.00
189....	L-761.....	WRITE FOR LATE PRICES			
189....	L-762.....	ADJ. SWING CHECK VALVES			
		Size $\frac{3}{8}$ in.....	\$0.85	Size $\frac{1}{2}$ in.....	.95
		Size $\frac{3}{4}$ in.....	1.05	Size 1 in.....	1.35
		Size $1\frac{1}{4}$ in.....	1.75	Size $1\frac{1}{2}$ in.....	2.30
190....	L-763-5.....	STRAIGHT, ANGLE and CHECK, JENKINS DISC VALVES			
		Size $\frac{3}{8}$ in.....	\$0.75	Size $\frac{1}{2}$ in.....	.95
		Size $\frac{1}{2}$ in.....	1.15	Size 1 in.....	1.45
		Size $1\frac{1}{4}$ in.....	2.05	Size $1\frac{1}{2}$ in.....	2.85
190....	L-766.....	ANGLE JENKINS DISC VALVES			
		Size $\frac{3}{8}$ in.....	\$1.00	Size $\frac{1}{2}$ in.....	1.30
		Size $\frac{1}{2}$ in.....	1.65	Size 1 in.....	2.05
		Size $1\frac{1}{4}$ in.....	2.65	Size $1\frac{1}{2}$ in.....	3.65
190....	L-767-8.....	PRICES ON APPLICATION			
191....	L-769.....	WATER RELIEF VALVES, New Design			
		Size $\frac{1}{2}$ in.....	\$3.85	Size $\frac{3}{4}$ in.....	4.25
191....	L-770-1.....	VALVES. Prices on application.			
191....	L-772.....	ADJUSTABLE POP SAFETY VALVES			
		Size $\frac{1}{2}$ in.....	\$3.00	Size $\frac{3}{4}$ in.....	3.15
		Size 1 in.....	3.25	Size $1\frac{1}{4}$ in.....	3.75
		Size $1\frac{1}{2}$ in.....	4.50	Size 2 in.....	6.25
192....	L-773.....	FIRST GRADE ROLLED PIPE, Guaranteed			
		Size $\frac{3}{8}$ in., black, per ft.	\$0.04	Galv., per ft.	.06
		Size $\frac{1}{2}$ in., black, per ft.	.05	Galv., per ft.	.07
		Size $\frac{3}{4}$ in., black, per ft.	.06	Galv., per ft.	.08 $\frac{1}{2}$
		Size 1 in., black, per ft.	.10	Galv., per ft.	.12
		Size $1\frac{1}{4}$ in., black, per ft.	.12	Galv., per ft.	.16
		Size $1\frac{1}{2}$ in., black, per ft.	.14	Galv., per ft.	.19
		Size 2 in., black, per ft.	.18 $\frac{1}{2}$	Galv., per ft.	.25 $\frac{1}{2}$
193....	L-774.....	BEST QUALITY REAMED NIPPLES			
		Size $\frac{3}{8}$ in., black, short	\$0.02	Galv.....	.03
		Size $\frac{3}{8}$ in., black, long	.03 $\frac{1}{2}$	Galv.....	.07
		Size $\frac{1}{2}$ in., black, short	.02 $\frac{1}{2}$	Galv.....	.03 $\frac{1}{2}$
		Size $\frac{1}{2}$ in., black, long	.04	Galv.....	.08
		Size $\frac{3}{4}$ in., black, short	.03	Galv.....	.05
		Size $\frac{3}{4}$ in., black, long	.05	Galv.....	.09
		Size 1 in., black, short	.04	Galv.....	.05
		Size 1 in., black, long	.07	Galv.....	.11
		Size $1\frac{1}{4}$ in., black, short	.05	Galv.....	.07
		Size $1\frac{1}{4}$ in., black, long	.08	Galv.....	.16
		Size $1\frac{1}{2}$ in., black, short	.06	Galv.....	.09
		Size $1\frac{1}{2}$ in., black, long	.10	Galv.....	.19
		Size 2 in., black, short	.07	Galv.....	.13
		Size 2 in., black, long	.14	Galv.....	.24
193....	L-775.....	GALV. LONG SCREWS. Very useful.			
		Size $\frac{1}{2}$ in.....	\$0.20	Size $\frac{3}{4}$ in.....	.30
		Size 1 in.....	.40	Size $1\frac{1}{4}$ in.....	.61
		Size $1\frac{1}{2}$ in.....	.65	Size 2 in.....	.85
194....	L-776-9:.....	MALLEABLE BEADED TAPERED ELLS, 45° ELLS and STREET ELLS			
		Size $\frac{3}{8}$ in., black..	\$0.04	Galv.....	.05 $\frac{1}{2}$
		Size $\frac{1}{2}$ in., black..	.06	Galv.....	.08
		Size $\frac{3}{4}$ in., black..	.08	Galv.....	.10
		Size 1 in., black..	.09	Galv.....	.13
		Size $1\frac{1}{4}$ in., black..	.14	Galv.....	.20
		Size $1\frac{1}{2}$ in., black..	.18	Galv.....	.27
		Size 2 in., black..	.30	Galv.....	.45

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Price

194....	L-780.....	MALLEABLE BEADED TAPERED TEES	
		Size $\frac{3}{8}$ in., black..	\$0.06
		Size $\frac{1}{2}$ in., black..	.07
		Size $\frac{3}{4}$ in., black..	.08
		Size 1 in., black..	.11
		Size $1\frac{1}{4}$ in., black..	.21
		Size $1\frac{1}{2}$ in., black..	.25
		Size 2 in., black..	.45
		Size $\frac{3}{8}$ in., galv..	\$0.09
		Size $\frac{1}{2}$ in., galv..	.10
		Size $\frac{3}{4}$ in., galv..	.11
		Size 1 in., galv..	.15
		Size $1\frac{1}{4}$ in., galv..	.27
		Size $1\frac{1}{2}$ in., galv..	.38
		Size 2 in., galv..	.55
194....	L-782-3....	WROUGHT IRON TAPERED COUPLINGS	
		Size $\frac{3}{8}$ in., black..	\$0.04
		Size $\frac{1}{2}$ in., black..	.04 $\frac{1}{2}$
		Size $\frac{3}{4}$ in., black..	.07
		Size 1 in., black..	.09
		Size $1\frac{1}{4}$ in., black..	.10
		Size $1\frac{1}{2}$ in., black..	.14
		Size 2 in., black..	.19
		Galv.....	.05
		Galv.....	.06
		Galv.....	.09
		Galv.....	.11
		Galv.....	.16
		Galv.....	.21
		Galv.....	.30
195....	L-784.....	MALLEABLE BUSHINGS	
		Size $\frac{3}{8}$ in.....	\$0.03
		Size $\frac{1}{2}$ in.....	.04
		Size $1\frac{1}{4}$ in.....	.06
		Size 2 in.....	.12
		Size $\frac{1}{2}$ in.....	.04
		Size 1 in.....	.05
		Size $1\frac{1}{2}$ in.....	.08
		Size $2\frac{1}{2}$ in.....	.17
195....	L-787.....	MALLEABLE CAPS	
		Size $\frac{3}{8}$ in.....	\$0.04
		Size $\frac{1}{2}$ in.....	.07
		Size $1\frac{1}{4}$ in.....	.12
		Size 2 in.....	.23
		Size $\frac{1}{2}$ in.....	.05
		Size 1 in.....	.09
		Size $1\frac{1}{2}$ in.....	.16
		Size $2\frac{1}{2}$ in.....	.35
195....	L-788.....	C. L. PLUGS	
		Size $\frac{3}{8}$ in.....	\$0.12
		Size $\frac{1}{2}$ in.....	.04
		Size $1\frac{1}{4}$ in.....	.05 $\frac{1}{2}$
		Size 2 in.....	.08
		Size $\frac{1}{2}$ in.....	.03
		Size 1 in.....	.05
		Size $1\frac{1}{2}$ in.....	.06
		Size $2\frac{1}{2}$ in.....	.14
195....	L-789.....	HEAVY MALLEABLE UNIONS	
		Size $\frac{3}{8}$ in., black..	\$0.11
		Size $\frac{1}{2}$ in., black..	.12
		Size $\frac{3}{4}$ in., black..	.15
		Size 1 in., black..	.18
		Size $1\frac{1}{4}$ in., black..	.25
		Size $1\frac{1}{2}$ in., black..	.31
		Size 2 in., black..	.40
		Galv.....	.16
		Galv.....	.19
		Galv.....	.21
		Galv.....	.24
		Galv.....	.37
		Galv.....	.48
		Galv.....	.60
196-7..	L-792-803...	SPECIAL FITTINGS. Write for late prices.	
198....	L-804-5....	HEAVY BEADED CAST IRON ELLS	
		Size $\frac{1}{2}$ in.....	\$0.06
		Size 1 in.....	.08
		Size $1\frac{1}{2}$ in.....	.15
		Size $2\frac{1}{2}$ in.....	.37
		Size $\frac{3}{4}$ in.....	.10
		Size $1\frac{1}{4}$ in.....	.19
		Size 2 in.....	.33
		Size 3 in.....	.88
198....	L-806.....	HEAVY BEADED CAST IRON TEES, 45° ELLS and REDUCING ELLS	
		Size $\frac{1}{2}$ in.....	\$0.08
		Size 1 in.....	.12
		Size $1\frac{1}{2}$ in.....	.23
		Size $2\frac{1}{2}$ in.....	.57
198....	L-807-10...	WRITE FOR PREVAILING PRICES	
198....	L-811-12...	HEAVY BEADED ELLS and 45° ELLS	
		Size $1\frac{1}{4}$ in.....	.21
		Size $1\frac{1}{2}$ in.....	.25
		Size 2 in.....	.39
199....	L-813-15...	HEAVY BEADED DRAINAGE TEES and Y'S	
		Size $1\frac{1}{4}$ in.....	.31
		Size $1\frac{1}{2}$ in.....	.39
		Size 2 in.....	.57
200....	L-817.....	ASBESTOS CEMENT, 100 LBS., BEST GRADE..	
200....	L-818.....	MINERAL WOOL, 50 LBS. (guaranteed).....	
200....	L-820.....	AIR CELL PIPE COVERING (guaranteed)	
		$\frac{1}{2}$ in., per ft....	\$0.90
		1 in., per ft....	.12
		$1\frac{1}{2}$ in., per ft....	.15
		$2\frac{1}{2}$ in., per ft....	.17
		$\frac{3}{4}$ in., per ft....	.10
		$1\frac{1}{4}$ in., per ft....	.13
		2 in., per ft....	.16
		3 in., per ft....	.18
200....	L-822.....	FELT PIPE COVERING, BEST GRADE	
		$\frac{1}{2}$ in., per ft....	\$0.10
		1 in., per ft....	.13
		$1\frac{1}{2}$ in., per ft....	.16
		$2\frac{1}{2}$ in., per ft....	.20
		$\frac{3}{4}$ in., per ft....	.11
		$1\frac{1}{4}$ in., per ft....	.14
		2 in., per ft....	.18
		3 in., per ft....	.22

Page Book	Number in Book	FIXTURE OR ARTICLE COMPLETE	Net Price
201	L-823	PIPE THREAD DOPE. Per can..	\$0.30
201	L-824	SMOOTH-ON CEMENT. Per lb...	.50
201	L-825	PREPARED PACKING. Per lb...	.50
201	L-826-7	WICKING. Per lb.....	.80
	L-827	ASBESTOS PACKING. Per lb....	1.50
203	L-824-24½	HOT WATER HEATERS. Prices on application.	
204	L-828A	HORIZONTAL PUMP JACK. Price	
204	L-828B	18 in. CAST IRON CESSPOOL COVER	3.50
204	L-828C	36 in. MANHOLE COVER.....	21.50
204	L-828D	PRICES ON APPLICATION.	
224	L-927	20 in. PIPELESS FURNACE.....	81.00
		22 in. PIPELESS FURNACE.....	94.50
		24 in. PIPELESS FURNACE.....	117.50
		26 in. PIPELESS FURNACE.....	158.00
		28 in. PIPELESS FURNACE.....	167.50
		30 in. PIPELESS FURNACE.....	201.00
225	L-928	VENTILATORS	
		8x10..\$3.05 10x12..\$4.30 12x14..	7.00
225	L-929	DOMESTIC WATER HEATER....	2.50
227	L-930	20 in. PIPE FURNACE.....	63.00
		22 in. PIPE FURNACE.....	74.75
		24 in. PIPE FURNACE.....	91.50
		26 in. PIPE FURNACE.....	109.00
		28 in. PIPE FURNACE.....	137.00
		30 in. PIPE FURNACE.....	168.00
230	L-931	SEPTIC TANK SYPHON.....	29.50

IMPORTANT

When placing your order for any fixtures or fittings always state quantity, catalog figure number, and size, also whether black or galvanized. This applies especially to pipe fittings, pipe, valves, etc.

Be sure to state whether you want right or left hand drainboard, or right or left hand corner when ordering a sink. If you are ordering a Tile-In Bath Tub, corner pattern, or a Recess pattern bath tub, be sure to state on which end of the tub you want the trimmings, and if it is a corner bath tub, be sure to state whether you want the tub to fit in the corner on the right or left hand side. Also be sure to state when ordering a Recess pattern tub, whether you want the trimmings on the right or left hand side.

Be sure to state whether you want a floor or wall trap. This applies to sinks and laundry tubs. When ordering a lavatory, always state whether you want the trap and supply pipes to go to the floor or wall.

Unless your order contains complete information as to the style of trap and supply pipes wanted, your order will be held up until we write and ascertain from you which style of connections are wanted. A saving of time can be made by submitting this information with your order. It will enable us to dispatch the same promptly without delay.

PASTE HERE IN YOUR
HANDY MAN BOOK